This volume contains remarks upon
Meth.- Stand & one Wesley.

Index

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	1	[illegible] Snake Root	93
[illegible]	2	[illegible]	97
[illegible]	6	[illegible]	99
[illegible]	[illegible]	[illegible]	11[illegible]
[illegible]	21	[illegible]	102
[illegible]	[illegible]	Sarsaparilla	107
[illegible]	32	[illegible]	113
[illegible]	35	Liquorice Root	115
[illegible]	34	[illegible]	121
[illegible]	43	[illegible]	122
[illegible]	53	[illegible]	125
[illegible] apple	5[illegible]	Bistort Root	127
[illegible] apple	54	[illegible]	1[illegible]7
[illegible] Hemlock	62	[illegible]	131
[illegible]	65	[illegible]	135
[illegible]	64	[illegible]	135
[illegible]	73	[illegible]	141
[illegible]	75	[illegible]	143
[illegible]	77	Virginia Snake Root	149
[illegible]	85	[illegible]	153
[illegible]	8[illegible]	[illegible]	15[illegible]
[illegible]	91	[illegible]	15[illegible]

Index

Name	Page	Name	Page
[illegible]	39	[illegible]	213
[illegible]	41	[illegible]	215
[illegible]	63	Peruvian Bark	217
[illegible]	107		
[illegible]	109		
[illegible]	121		
[illegible]	133		
[illegible]	135		
[illegible]	139		
[illegible]	141		
[illegible]	143		
[illegible]	145		
[illegible]	147		
[illegible]	149		
[illegible]	165		
[illegible]	169		
[illegible]	177		
[illegible]	203		
[illegible]	207		
[illegible]	211		

Notes upon Lectures delivered by G. B. Wood M.D at the College of Pharmacy.

Nov. 12th 1833. First Lecture.

In order that his lectures might be intelligible to both young and old pharmaceutical students, he commenced with the very elementary principles, & gave us a description of weights and measures. The Apothecary should always buy by the Avoirdupois and sell by the Apothecary or Troy Weight, and in the preparations of the Pharmacopœia (U.S.) the Troy weight is universally used in directions.

It may also be proper to note here some other terms which are used by physicians in prescriptions & which, being very uncertain quantities or doses, should be abandoned. As for instance a teaspoonful is usually meant for ℥ss – a Tablespoon for ℥ss. – a wine glass for ℥ij and the old tea cup for ℥iiij – but it is evident to any one that these measures in our times are by no means exact as to these quantities. With this preliminary sketch we proceed to what

Description by drops is very uncertain, because they vary, from the size of the mouth of the vessel, – the liquid &c. In Tincture, there are about twice as many drops in a given quantity as in the same quantity of Water. –

more properly belongs to our course and say that all remedies are derived from organic beings and from inorganic or mineral substances. These latter will come more properly under the department of the chemical lecture; and consequently we shall consider only the former.

Organic beings are those which have life; - and are so called because by the operation of vitality the parts are organized to perform certain offices. These or. beings are divided into 2 sets. - vegetable and animal, and as most of our remedies are obtained from the former, that merits our attention first —

It may seem strange to assert that it is difficult to define what we mean by vegetable, but such is the fact. Some have defined a plant to be a living being void of locomotion, but we know that there are animals which would be included under this head, (oyster for inst.) - Others have defined it to be a living being void of sensation. - but

Proximate Principles of any body are those principles which unite immediately to form that body. These are compound & usually contain the Ultimate Principles, Carbon, Hydrogen, Oxygen & Nitrogen: — which are the elementary [illegible] —

but we are not sure that all plants are void of sensation, or that some animals might not be included. — Others Dr Austin of Ed. have defined it to be a living being receiving nourishment from its external surface, while animals all receive their nourishment from an internal surface or alimentary canal, and to this, it is said, there is no exception. We may safely say then, that a plant is a living being incapable of locomotion probably void of sensation, and receiving its nourishment from its external surface.

— It is necessary to become acquainted with what is meant by proximate and ultimate principles. To explain these we will take any substance in Chemistry, Sulphate of Soda for ex. — and we say that Sulphuric acid and Soda are the proximate principles, while Sulphur and Oxygen, and Sodium and oxygen are the ultimate principles. — In like manner in veg. we find prox. prin. such as.

1. The vegetable acids are frequently met with as proximate prin. — The characteristics of acids are

bes. acids are all solid; & consist of Ox.- Hyd. and Carbon;- Oxygen being in excess. -

2 bes. Alkalies.- discovered within about 15 yrs.- They derive their names from the plants from which they are derived, & end in ia - in French - ine - - They neutralize acids, but do not change blue to green or deliquesce.

2. Sugar is another well known proximate principle. - It is solid, white, inodorous, - sweetish taste, - soluble in an equal or less weight of Cold, to an indefinite extent in hot Water. - Boiling Alc. dissolves ⅓ its weight, but deposites it in Crystals on cooling. - Ult. constit. are Ox.- Hyd. & Carb. - [illegible]

a sour taste, turns vegetable blues to red, and neutralize alkalies & earths.—

Oxygen, Hydrogen and Carbon, sometimes united with a small portion of Nitrogen are constituents of alkalis, and it is to be remarked that the Oxy- and Hydrogen are in exact proportion for forming Water. — Another proximate principle is

3. Starch or Fecula. — This is, when pure, insipid, inodorous, white, insoluble in Cold Water, Alcohol or Ether but sol. in boiling water, when it appears to undergo a decided change*, for if the boiling solution be vaporized to dryness, we shall find a residuum which is soluble in cold Water, Alc. or Ether. Its tests are Iodine, which forms a blue precipitate and Sub-Acetate of Lead " " White " — When boiled with Water with 1/12 its weight of Sulphuric Acid it forms Sugar of Grapes.

4. Gum, — is inodorous, colourless, tasteless, transparent insoluble in Alcohol or Ether but sol. in Water thereby forming a mucilage. Its tests are Alcohol which takes up the water, and precipitates White flakes of Gum

and

Ess. Oils have an unctuous feel, - a peculiar, oleaginous consistence, - are inflammable & insoluble to any extent in Water. - The two classes are distinguished by dropping on paper, when upon evaporating the volatile leave no stain. -

and the Subacetate of Lead which forms a white precipitate as it did also with Starch. —"—

Second Lecture. Nov. 14th 1833

Besides the proximate principles of veg. already mentioned in the preceding lecture, we have another by far the most abundant in plants, not only of the ligneous but also of the herbaceous class. and this is

5. Lignin. - It is tasteless, inodorous, insoluble in water, Alcohol, Ether or Diluted Acids. - By Sulph. Acid it is first converted into Gum, and afterwards Sugar of Grape. Lignin, Gum, Starch &c. are all convertible into one another by certain reagents. — " Differ only in prop. of (Hydrog.

6 Among the prox. prin. we now come to the oils, - which are divided into 2 classes. - the fixed and volatile. The fixed are also called expressed oils because they are generally obtained by expressing the seeds. When pure, they are void of smell, but by age and exposure they become rancid. Tho' called fixed, they are volatilizable at a heat of 600° which however is owing to decomposition taking place at that temperature.

There are two kinds of fixed oils, - those, which on exposure become dry, and those which retain their unctuous feel. - The first are called Drying, - the second, Fat oils. -

According to Chevreul they consist of two distinct substances, which can be separated by freezing. - stearin (from stearic acid) and elain (from elaior-oil), of which the stearin is that which in many oils assumes the solid consistence, while the other portion cannot be solidified at any temperature. The ultimate constituents of these oils are Carbon, Oxygen and Hydrogen, in which the Hy. is in excess. - Their distinguishing property is that with alkalies, they form Soaps. -

The volatile, essential or distilled oils are however of more importance than the fixed. They boil or are vaporized at about 300°, but if we add water to them, they boil at a much lower temperature. They have a strong taste and odour, are soluble in Alcohol, and partially so in Water. Their ultimate constit. are Carbon, Hy., and Ox., - but some of them contain no Oxygen. Like the fixed, they are composed of two distinct principles, Stearoptene, and eleoptene. - The former of these is that part which assumes the solid consistence.

Ult. constit. of Resins are Ox.- Hyd.- & Carb.- Hydrogens

Bassorin,- of which we have an example in Cherry Gum softens in Water, without dissolving. -

Another substance belonging to this same class is Resin. It is solid at common temperature, brittle inodorous generally of a yellowish colour, nearly insipid, fusible at a moderate heat, and when set on fire will burn with facility - Insoluble in Water, but sol. in Alcohol, Ether, and the Vol. Oils. If water be added to its alcoholic solution, it will be thrown down in the form of a white precipitate. Hence it appears in many of its qualities to be just the reverse of Gum. - Gum Resins are those substances which are obtained by exudation or incision. -

Balsams are composed of Resin, Vol. oil and Benzoic Acid.

There is another proximate principle which has not been associated with the preceding viz. Tannin - the principal substance upon which all vegetable astringency depends. It is friable, soluble in Water and diluted Alcohol, but not in pure Alc. has an astringent taste, and unites with some acids & metallic oxides forming insoluble compounds &

Test of Tannin is Sol. of Gelatin or Salt of Iron. —

Gluten, when exposed to the air undergoes putrefaction, owing to the Nitrogen it contains, - hence it gives the odour of Animal Putrefaction. —

in solution is precipitated by the metallic salts. A blue solution of it is rendered black by the addition of a salt of iron, and hence we discover this to be the necessary constituent of ink. When exposed to the air, it becomes brownish and insol.

Gluten is another principle, which, tho' not found to a large extent in plants, exists in abundance in grains of various kinds. - It has a very slight taste, is of a grayish colour, - fibrous, - ~~tenacious~~ tenacious, - elastic, - putrefies when long exposed, - is insoluble in Water, Ether, the fixed or vol. oils but sol. in boiling Alcohol, diluted Acid and in caustic Alkaline solution. It is this principle existing in Flour, causing the dough to rise and form, when baked, light bread or cakes, - on account of its elasticity - —

Vegetable Albumen is another principle, and is in its nature somewhat similar to animal albumen. When liquid, it is ~~soluble~~ miscible in water, but by heat, - Alc. - and acids it coagulates, and becomes insoluble. But when solid it is insoluble in Water or Alc. - has not the tenacity of Gluten, but like it putrefies when exposed. -

Extractive matter differs from an Extract.- The former is a peculiar principle, - while the latter may contain a number of principles, & even the former itself

Extractive matter we often find mentioned as a proximate prin. and consequently it here deserves notice. It is obtained by maceration, is soluble in water and Alcohol, - but by exposure to air at a high temperature becomes dark and insol. - consequently a solution of it when exposed throws down a precipitate which by Berzelius has been termed apothème -

Coloring matter means ~~that it~~ nothing more than that the substance spoken of, has colour. —

Besides these already mentioned, there are many others peculiar to one or more vegetables, which are generally named by affixing ine as quinine &c. - But if these prox. prin. be united with alkalies they are terminated by ia as morphia &c. —

Vegetables are divided into roots, stems & bark, leaves, flowers, fruits and juices. - which will be severally treated of in the order mentioned.

First. The Roots. - These consist of 2 parts, Caudex and the radicles or fibres. In shrubs, the caudex is ligneous, and in herbs it is soft and fleshy.

Plants are distinguished by their roots with regard to their being annual, biennial or perennial.
They receive various names from their different shapes and appearances, - thus a simple Root consists of a single body or Candex with radicles - - a spindle-shaped as in Carrot. - Globular or Spherical as Aristolochia rotunda - Top-shaped - Sub-globular appears like compressed Glob. - Concentric - Cylindrical - Abrupt as Blood Root & Primrose &c. They are also named Perpendicular or Horizontal according to their direction under the surface of the Earth. -
When numerous radicles proceed from the stem of the plant in various directions as is the case in Grasses or Digitalis, they are called fibrous Plants.
- Branching, - when the Candex is divided into various portions as in Shrubs, Trees &c. -
Articulated, - when the root presents the appearance of separate portions united as in Calamus. &c. -
We have also Tubers and Bulbs

Third Lecture Nov. 16. 1833.

Tubers and Bulbs, tho' usually associated with roots are improperly so classed inasmuch as they perform different offices. They contain the germ for the new plant, and also sufficient nourishment to sustain its growth for a considerable length of time. The tubers are generally fleshy, and connected to the plant under ground either immediately or by stems as the root of Jalap. They are distinguished from the Caudex by not giving out any radicles to imbibe nourishment. They abound in starch, which is a substance that nourishes the young plant - Tubers are single, or sometimes two, sometimes more annexed to a plant. Sometimes they contain one germ, at other times a number as the potato. -

Bulbs, grow either under the ground, or above, as in Garlic where we find the bulb on the upper extremity of the plant. They perform the same offices as tubers as to retaining the seeds of a new plant, but differ in this respect, that they frequently send out

Value of J. Mercer

fibres from themselves as in the Onion, Squill &c. - They are also divided according to their consistence some are called Solid as Colchicum, - Scaly as the Squill, Lily &c - Tunicated as Onion &c.

Roots consist of 2 portions, the central and cortical portion, and this latter also is covered by an epidermis. - They ~~are~~ ~~par~~ are either fleshy, as in the Carrot, Turnip &c. or ligneous as in Trees &c. In our remarks upon them, we shall associate according to their medicinal qualities or properties, being convinced that they will thus be better retained in the memory. We shall also, in order to enable the Student to understand the botanical description of ~~plants~~ as given in medical books, gradually introduce the principles of botany as occasions may offer, deeming this a better plan than to tax the mind of the student at once, with all of the science, with which he should be acquainted. We shall therefore commence with the emetics and first with Ipecacuanha Cephalis. And here we perceive the very mention of the name

Cephaelis affords an opportunity for introducing a few botanical remarks before we proceed to the med. properties. All plants have two names in Botany, the generic and specific. - In the flowers of most of the plants either upon the same or upon separate stalks are two distinct parts the male & female, which as in animals are designed for their propagation. The male parts are called stamens and the female parts, pistils. The classes of the plants are formed according to the stamens, thus Monandria (from μονος, one and ανηρ man) signifies those have one stamen or male, - Diandria - two stamens &c. The plants are arranged in Orders according to their pistils thus Monogynia (from μονος one and γυνη woman) comprehends those having but one pistil or female, - Digynia - two pistils and so on. This Shewbing of the Class, Pentandria, Order, Monogynia, it has received the generic name of Cephaëlis and specific name Ipecacuanha. The name originated from the language of the South American Indians, and signifies, vomiting. It is a na-

tive

tive of Brazil, whence its introduction into Europe was effected by a merchant, who requested a young physician, Helvetius, to try it in some of the French hospitals in cases of dysentery & like diseases. This proving satisfactory to the physician, he afterwards administered to some of those in the higher stations of society, and at length cured the King's son by this, then unknown medicine. This induced the King, Louis XIV. to offer a large reward for its discovery, and the physician disclosed the secret and received the money.- The merchant however, not being satisfied that he should be totally debarred from the advantage arising from his own discovery, or suggestion, instituted an action for the recovery of at least part of the awarded premium. The court, however, decided in favour of the physician probably, owing to his having administered the requisite dose of his premium to them.

Ip. is a small shrub, growing in the moist and shady woods of Brazil,- having its stem or root running horizontally under the ground for a considerable distance

It yields its virtues to boiling water & alcohol, but they are injured by decoction.

and then sending up stems about a foot high, towards the top of which are leaves, which are opposite, ovate oblong, pointed, and resting on small petioles. The root, which is the most effectual portion is from 1 to 5 or 6 inches in length - contorted, with wrinkles which are circular. - Its colours are various from a light grey to a dark brown slightly tinged with red owing perhaps to a difference of age or position. It is usually greyish brown, and consists of a cortical and ligneous portion. - The cor. por. is thick, brittle hard almost horny, and somewhat transparent. When it is opaque or looks like starch it is of an inferior quality. When powdered, it is of a light, greyish fawn colour - peculiar nauseous odour which is apt to excite dyspnoea, - its taste is bitter acrid and nauseous in a great degree; - ~~deteriorates by~~ exposure to air & light. -

Fourth Lecture Nov. 19. 1833.

Emetia is the emetic principle of Ip. - and being alkaline, it has rec^d its name according to the adopted system of nomenclature. The root also contains other substances as

The different varieties yield different proportions of this active principle. - Brown yields 16 per ct. - Grey. 14 per ct. - Striated 9 per ct. & White 5 or 6 per ct. -

We prefer Ip. to any of the other Emetics in a great number of cases. 1. When the object is merely to evacuate the stomach, because it seldom or never extends its operation to the Duodenum. - It is less apt to purge than the other emetics, & more safe & less violent in its effects. - It is well to combine with it, a very small quantity of some active emetic, to ensure its operation. - 2. When a frequent repetition of an emetic is required, & we wish to produce no gastric irritation, as in Asthma, but if we wish to irritate the stomach, we may apply other medicines, - as in Mania, Tic douloureux &c. - 3. When we wish only a mild effect, more especially in all cases of irritable stomach. -

as Fatty matter, wax, gum, starch &c. but these are unimportant. This emetic principle was first extracted by Pelletier but being very impure was called emetina. This impure emetina is in brown, translucent scales, has a bitter, acrid taste, - deliquescent, - very soluble in Water and Alcohol, but not in Ether, - but contains no peculiar alkaline properties. This is found in the shops. It contains the pure emetia united with some unknown acid. - The process for obtaining this pure em. is detailed at length in the Disp. It is never found in the shops & seldom used, - its op. is very violent. It is insoluble in Water or Ether, but sol. in Alcohol. Its incompatibles are the vegetable astringents. - Its op. is a mild and prompt emetic, with little continued nausea, and is generally thrown off the stomach in 2 or 3 vomitings. - The danger from an overdose is but slight, on acct of its being thus so soon rejected, and hence we find an excellent antidote for the narcotic poisons. - A dose is from 15 to 30 gr. - medium about 20 gr. repeated every 15 or 20 minutes till it operates. - The dose of the Sulph. Em. 1½ gr. - of pure Emetia grs. - but the danger from an overdose of this is much greater.

The general method of prescribing the emetic, is to order 40 grs. to be divided into 2 powders. - Let one up in ½ a teacupful of warm water, & give it, - if it do not operate in 15 or 20 min. give the other likewise. -

Great benefit often results from its nauseating effects when given in ~~large~~ doses of grs ij -

There is but slight danger from an overdose, but an antidote for is the infusion of Galls. -

We may give the Dover's Powder in a liquid form, by adding about gtt XXV Laudanum to about 35 or 40 gtt of Vinum Ipecac. -

Given in small doses of 1, 2, or 3 grs. Ip. is an expectorant. - useful in Asthma &c. - Vin Ip. - is sometimes preferable as an expect. to Vin. Ant. - especially in cases of Children, subject to convulsions. - Dose about from gtt XXX ~~to~~ ℥j. -

Indigenous

The Ip. given in doses of 2 or 3 grs. excites nausea. - of 1 gr. it is diaphoretic, - and ½ gr. an alterative. -

Its officinal preps. are Pulv. Ip. et Op. - or Dover's Powder of which we shall speak under the head of Op. and Vinum Ip. - which is made by macerating ℥i Ip. in a pint of wine for 14 days, then filter, - dose f℥i. - f℥i contains about 30 grs. Ipecac. -

Here it is well to remark that in obtaining wine for pharm. purposes, regard must be had to its quality. The best Sherry is both good and cheap, and is therefore recommended.

There are several species of Imp. Ip. which it may be well to guard against. - One is the White, - the root of which is undulated, with small circular depressions, but not so near together as to form the rugose appearance of the genuine Ip. - Another is the root of the Cicotria emetica, - which grows in Peru & New Granada. It is distinguished by the wrinkles being longitudinal and the circular dep. nearly an inch distant. -

- Our next substance is Gillenia - the root of the Gillenia

Tripoliata. - called also Indian physick, - is the same with what was formerly called Spiræa Tri. - It is an herbaceous, perennial plant, - its stems are flexuose red, - 2 or 3 f. in height - leaves ternate, serrate, pointed, ovate-lanceolate, and its flowers are in loose panicles. - Flowers appear - June & not thence to be patterned in September. - It belongs to the Class Icosandria and Order Pentagynia. Here it may be proper to remark that in the class Icosandria, the stamens are all inserted in the calyx, whereby this class is distinguished from the Polyandria, in which altho' the plants may have the same number of stamens, yet they are inserted in the receptacles. The stipules are small leaf-like substances fixed at the insertion of the leaves upon the stalk, and in this being very small are called linear. - It is found east of the Alleghany Mts. - in shady woods &c. -

Sil. stipulacea is another variety of this plant, and is so named from its large stipules. It is found on the other side of the Alleghany mountains. Sil. Tripoliata sends out radicles in all directions from a candex, - somewhat resembles Ip. - but is wrinkled longitudinaley, - of a reddish

Indigenous

brown colour, - contains a larger ligneous portion and is tougher than Ip. - In substance it has little odour, but when pulverised, has a sweetish, tho' not unpleasant smell, its taste is bitter but not nauseous, - powder - brownish. The Bitterness is extracted by boiling Water and Alcohol. - Its emetic prop. are very similar to those of Ipecac, but is said not to be so certain. Dose 20 to 30 gr. repeated every 15 or 20 minutes till it operates. — , —

Fifth Lecture. - Nov. 21. 1833. -

Euphorbia Ipecacuanha. - In giving a description of this it may be well to remark that the genus Euphorbia is of a peculiar kind. All the plants belonging to this genus both vomit and purge, and are included in the botanical class Monœcia. - This means that the flowers contain stamens which are connected with the pistils, but that they bear on the same plants female stems also, but they are not united together. - Diœcia means that class which contains the male on one plant and female on another. — This plant (Eup. Ip.) is perennial and herbaceous, and presents on the surface of the ground

Indigenous

a small bushy appearance, - with leaves of various shapes and colours, - being lanceolate, oval or ovate and varying from red, green or purple. - but notwithstanding this it may be distinguished by the flower in which we find a small female globule, generally somewhat pendent. - It grows in various parts of the U. S. and is said to be very abundant in the sands of Jersey opposite the City. - The Root is yellow, when fresh, very long - ½ an inch to an inch in thickness, nearly cylindrical, and sends up small roots or stems. - It is an active emetic, - liable to purge and dangerous when taken in an overdose - The dose of the powder is from 10 to 15 gr. - - There is another species of this genus called the Euphorbia corollata, which has the same prop. - with the preceding, but presents a different aspect. It is erect, with leaves thick at the lower part of the stem, and the upper it is branched, and covered with an umbel of flowers.

Sanguinaria - Blood Root. - The root of the San. Canadensis - It is a perennial, herbaceous plant,

with a root, which is horizontal, premorse, and sends off radicles from it. - From one end of it arises the flower stem from 6 in. to 1 foot in height, on which grows the flower. - It is of the Class and Order, Polyandria, Monogynia. - The Leaf also rises from the root, is kidney-shaped, lobed, and traversed by orange coloured veins - It flowers early in the Spring, and is found in the woody moist parts of the U.S. - The root is off - from ¼ to ½ an inch thick, of a brownish red outside, and red internally, very much wrinkled. - Its powder is of a brownish red, - has a faint, narcotic odour, - bitter acrid and very durable taste, - and imparts its colour and properties to Water and Alcohol. Sanguinarina has been said to be its alkaline principle, - and forms red salts with acids. -

It is an acrid emetic, narcotic, and in overdoses produces very violent effects - Dose is from 10 to 20 gr. A Tincture is made of ℥ij to a pint, of which a dose is from ♏ ℥ij to ♏ ℥iiij. — " — seldom used. -

Exotic

Rhubarb grows in South Western part of Chinese Tartary - on the borders of Thibet, & in the mountainous regions of Central Asia. — There are several species of the plant, Rheum Palmatum, — R. Undulatum, — R. Compactum, — R. Australe & R. Rhaponticum, — the last of these is not used in med. — but the footstalks of the leaves are sometimes used for pies &c. — They contain some Bi-oxalate of Potassa to which they owe their acidity. Though it is not certain from which of these species, the Rhubarb of Commerce may be derived, yet it may come from either one or from all of them

It is exported from the plains of Tartary to Canton, (whence we receive most of ours) & to St. Petersburg, hence we have two varieties in Commerce. —

We now pass to the consideration of that class of medicines called Cathartics, of which we know there are three sets, - Laxatives, Purgatives and Drastic Purgatives. - As among the first of Cath. we shall mention Rhubarb. - It is obtained from China, which country being very difficult of access to foreigners, but little is known from what species this root is derived. — The roots are large, thick and branching, - and send up radical leaves on petioles from the midst of which arises the stem, which also has leaves on it. - The country in which it grows is the highest part of Asia, being bounded on the North by Siberia South by the Himmaleh Mts, and East by China Proper, - and is comparatively barren. — Root is large, - brownish yellow colour, and requires much care in collecting. When about 6 yrs. old, it is taken up and deprived of its cortical part, then cut and dried, - by drying it loses 4/5 or 7/8 of its weight. - There are two varieties in commerce, - China or India and Russia or Turkey, so called from the ports whence

The Chinese, when good, is perhaps as efficient as the Russian, & is generally used. It is rather heavier, more compact, & has a stronger odour. —

they are shipped.- The first variety is much more abundant and cheaper, and generally found in the shops.- It is cylindrical, of a dirty yellow colour and every piece has a hole through it, and sometimes we find a piece of the cord attached by which it has been suspended to dry.- It appears at as tho' it had been scraped;- and when broken the fracture is not smooth, and we find red, yellow and white intermingled throughout.- It is light, porous,- has a peculiar, somewhat aromatic smell, with a bitter astringent taste, and when chewed, a grittiness is felt between the teeth and the saliva is turned yellow.- Its powder is of a yellowish cast.— No great care is taken however in preparing this variety for the market, and sometimes we find pieces, rough, rotten or wormeaten.-

The Russian or Turkey variety is prepared with much care, and each piece has to pass inspection before it is permitted to leave their borders. It is of a brighter hue, than the China, and pieces appear as

European, comes from England & France & appears as if taken from younger plants.–

R. Rhapontic. grows in plains of Krimea & South of the Black Sea.

tho they had been pared instead of scraped, - they are more irregular, and the holes in them do not pass farther than the centre for the purpose of inspection. - The powder also is of a brighter buff yellow. - The European Rhubarb is sometimes in flat pieces, heavier, - and taste more astringent, - less bitter but not so good a purgative. - It does not colour the saliva, and hence is preferable for chewing, - nor does it crackle between the teeth as the others. - Its powder is darker, and has a reddish brown tinge. The Rhapontic Rhubarb is in cylindrical pieces, more solid and heavy, - when broken the colours appear passing in radii from the centre to the circum. It is less active as a cathartic. - never used in med.

In the choice of rhubarb, without regard to varieties, select those pieces which are moderately heavy and moderately compact, - with a lively colour, brittle, and fracture presenting a fresh appearance with veins running thro it, of various colours, - of an aromatic odour, - bitter, astringent taste, but not mucilaginous, - feeling gritty when chewed, and

Rhabarbarin is a crystallizable, yellow substance, - insol. in cold Water, sol. in hot W. - Alc. & Ether, - forms insoluble compounds with the acids, - volatilizable at a little above the boiling heat of Water, - has the peculiar smell of Rhubarb & a bitter taste.

Oxal. of Lime, constitutes 1/3 of weight of Asiatic Rhubarb. - Tannin is the principle to which it owes the astringency following the purgative effect. -

Water by boiling extracts the active matter, but long boiling is injurious. - Alcohol also extracts some portion, but the best solvent is diluted Alcohol. —

imparting a yellow colour to the saliva, - and forming a bright yellowish powder. —

Fifth Lecture Nov 23. 1833. -

A few words yet remain to be said concerning the chemical nature and pharmaceutical preparations of Rhubarb. It yields its virtues to boiling Water, after infusing for some time and Alcohol, forming with the former a yellowish and with the latter a brown solution. - By long boiling, however, the rheum is injured. - It contains an active principle called Rhabarbarin which probably possesses its purgative power. Besides this, another ingredient is the oxalate of lime, to which are attributed the grittiness of the Rhubarb when chewed, and the whitish veins which traverse the root in all directions. - Tannin, also, is found and it is said that the purgative principle depends likewise in some measure upon this. - Starch, and other substances of minor importance have been detected. And here we may advance a general remark that when tannin and starch, coexist

Eng. pints. is 20 oz. of a little above 1 pt of boiling water. -

It is applicable in an enfeebled condition of the stomach, - hence given in Dyspepsia attended with constipation, - Diarrhea, - Summer Complaints of Children, - & in the last stages of Dysentery, when the stomach requires some tonic, - in typhoid complaints when they are not attended with inflammation, because it has no debilitating effects. - When given for habitual costiveness, combine it with some other laxative as Soap, - Magnesia &c. -

It is improper in inflammatory diseases. -

Its purgative operation is not restrained by Opium. (Chapman)

It is given in a variety of forms. - When given in the form of Infusion, - Aromatics should be added to it, & it should not be boiled. - A good form is

℞ Rheum Cont. ℥ij

Card. or Nutmeg ℥ß or Sem. Foenic. ℥i

Aquae bullientis ℔ß. - Macerate in a covered vess.

in any plant, and are boiled, they form an insoluble compound, which is precipitated. —

The medicinal properties of this plant are peculiar and valuable. It operates slowly but not profusely, and discharges the contents of the bowels, without leaving the contained water behind. - It is useful in a variety of diseases, and especially in low cases of typhoid fevers &c. - Altho' purgative, it afterwards has the property of acting as an astringent. - is tonic, owing perhaps to the tannin contained. - It imparts its colour to the evacuations and hence informs us when it operates. Roasting increases its astringency, but care must be taken that it be not charred in the operation - It is usually given in combination with other substances, for the purpose of modifying and assisting its operation. When griping is produced in the bowels, soap is an excellent preventive. - A purgative dose is from 20 to 30 gr. - laxative 5 to 10 gr. - Of Europ. Rhub. - 2 the quantity. -

sel for 1 or 2 hours till cool. - Give a wineglassful 2 or 3 times a day or 1 or 2 tablespoonfuls every 2 or 3 hours till it operates —

(These are 4. Tinct. - & 3 Syrups offic.)

Spiced Syrup of Rhubarb, made by macerating Rhubarb & Spices in Dil. Alc. - straining, - mixing with Syr. Simp. & drawing off the Alc. by water-bath. - To a child 1 yr. old, give a teaspoonful every hour till it operates. The operation can be distinguished by the red dilute color of the evacuations. —

Sherrer —

The officinal preparations of this root are Infusum Rhei, which is made by adding ℥i of Rhubarb to ½ pt. of Water, - macerate for 2 hrs. Dose from ℥i to ℥ij, repeated every 4 hours till it operates. - Syr. Rhei, and Syr. Rhei et Senna, - Dose of either from one to 2 teaspoonfuls for a child - for an adult ℥i. - Syr. Rhei Arom. Dose ℥i - Tinct. Rhei, - Tinct. Rhei et Aloës, (Elixir Sacrum) - Tinct. Rhei et Senna, (Warner's Cordial) - Tinct. Rhei et Gentianæ - Dose of each about ʃ ℥i. -

Jalapa. - The root of the Ipomœa Jalapa, - a plant growing in Mexico. - Here it may be proper to remark in order to distinguish the genus Ipomœa from the genus Convolvulus, concerning which many mistakes have often been made, that the Ipom. has a capitate stigma, while the Convol. has not. The proper plant has a root about the size of the fist, which is tuberous. - The stem rises like a vine and twines around objects sufficiently near. The leaves are sagittate or cordate. - Flower of a purple colour. - Belongs to the class Pentandria and order

When Tulap is worm-eaten, it is said to be stronger, because the worms attack the whitish portion, which contains the starch &c, & leave the other more active properties. —

Monogynia. It derived its name from a tribe in Vera Cruz. - From an attempt made by Dr. S. R. Cox, no doubt exists but that it might be extensively cultivated in this country, especially in the Southern section. The tuber is the part used, - it is dug up and dried, - sometimes cut in various directions to facilitate the drying. It is ovate, very solid, - heavy, compact, wrinkled, and of a dark grey colour. - When broken, it presents a shining, resinous fracture, - firm and solid internally, with concentric circles alternately of yellowish grey and brown. Its powder is of a yellowish grey or fawn colour, and when snuffed up the nostrils, excites sneezing, and has a heavy, sweetish nauseous odour, with a acrid nauseous taste. It yields its virtues partly, to Alc. and partly to Water, but entirely to Diluted Alcohol. Resin and mucilaginous or extractive matter are the principal ingredients worthy of attention - Resin is said to be the purgative, and the gummy portion to act on the urinary organs. Sometimes we find this root adulterated with

Jalap is frequently given combined with Cream of Tartar in cases of Dropsy, & in Chronic Inflammatory Affections. — In scrofulous inflammations of the Hip, Knee, Spine &c, no purgative is better suited than this; — it does not derange the digestive powers & the child will increase in strength during its use. The combination is usually 10 or 15 grs Jalap & ℥j or ℥ij Cream Tartar. —

Resinous Ext. of French is more irritating. —
The extract is prepared by first making a Tinct. with Rectified Alcohol, — then a boiling infusion of the residue, — strain & evaporate separately to the consistence of Honey, then mix & evaporate by a water-bath to a proper consistence. —

Indigenous

spindle-shaped roots, - with sliced roots, which some have considered to be the Mechoacan. - They have not alternate layers of diff. colours. - These, in selecting it, should always be rejected, as well as those pieces which are very light, - or of a dull colour. - It is an active hydragogue cathartic, sometimes causing pain in its operation. Dose from 15 to 30 grs. - 20 grs. a medium dose. It is usually associated with Calomel or with Cream of Tartar. The off. prep. are the Extract and Tinct. Jalapae - The eft. is of a dark-reddish col. and can generally be distinguished from other extracts by its edges being slightly transparent, - It contains all the virtues of the powder. Dose 10 to 20 grs. -

Convolvulus Panduratus - Wild Potato. + is an indigenous plant, growing in various parts of the U.S. and is generally found growing in sandy fields or in moist places, and flowers from June to August. - It has a large root, - leaves stand on petioles, cordate, panduriform, and belongs to the Class and Order Pentandria, Monogynia. - Its flowers

c rudi enous

stand several together, are red at the base, but white at the borders. – The **stem** is sometimes very long, and the root is apt to have in it longitudinal fissures. – When dry, the root is of a yellow ash colour externally, but internaley whitish and milky. – It is a weak cathartic and slightly diuretic. Dose is about 60 grs. –

Seventh Lecture. Nov. 26. 1833. –

Podophyllum Peltatum. May Apple. – is an indigenous plant, extensively diffused throughout the U.S. – is sometimes termed mandrake. – It is an herbaceous, perennial plant. – root is horizontal, & sometimes extends in this direction for several feet. It is of a brownish-red colour, – jointed, and sends off numerous radicles, and is from ½ an inch to an inch in thickness. – The stem is about 1 ft. in height, round, – smooth, – erect, and at its summit sends off two leaves which are supported on petioles, – palmate, – peltate, – divided into 6 or 7 cuneiform lobes, – incised. – From the fork of the stem, proceeds a solitary

Fruit ripens in September, flowers appear in May or June. –

According to Bigelow, its constituents are a bitter extractive, Gum & Starch. [illegible] principle [illegible] may be found hereafter. –

It is a sure and active Cathartic & said also to be narcotic. – [illegible]

(Chapman says it is useless)

one flowered peduncle; - flower is of a white colour and has numerous petals. - Belongs to Class & order Polyandria; - Monogynia. - The flower is followed by a berry which is about the size and colour of a lime; containing a number of seeds, and by some has been termed the wild lemon. It usually grows in moist shady woods, and in a loose soil. Its leaves and shoots are said to be poison, but this is as yet doubtful; - the fruit has a sweetish, peculiar taste, and may be eaten with impunity. - The root shrinks, much by drying, and becomes of a browner colour. - internally it is whitish, and its powder very much resembles that of Jalap. In substance it has little smell, but when pulverized its odour is sweetish. - Its taste is at first sweetish, then bitter, nauseous, and slightly acrid. - It yields its bitterness to boiling water, and is said to resemble Jalap in its effects, and used generally under the same circumstances. It is often combined with Calomel or with supertart. Pot. - Purgative dose about 20 grs. -

Erysiac

[illegible]

[illegible]

[illegible]

The fresh root, when chewed, produces a benumbing effect on the tongue. –

Helleborus Niger. – is a perennial, herbaceous plant. – The root is of a black colour consists of a caudex having several heads, and from this Caudex proceed numerous radicles or fibres, which are the portions recommended for use. The leaves stand on long footstalks which proceed immediately from the root, are serrated, and of a dark green colour. – From the midst of the leaves also springs the flower scape directly from the root, bearing one or two flowers. From the fact of its blooming in Winter, it has been termed the Christmas Rose. – Belongs to the Class and order – Polyandria, – Polygynia. – It is a native of Austria, Italy, & the South Eastern portion of Europe, and of the mountains of Spain. This was supposed to be the Hellebore of the ancients, until it was discovered by Tournefort, travelling in Anticyra, that that was of a different species, which he termed Hel: Orientalis. – As the roots are received in our market, the fibres are broken off. – Their colour is black externally, but internally whitish, – having

It is one of the most ancient medicines known, & so frequently was it used by the Greeks & Romans, that to intimate a desire for a person to be "sent to Anticyra" was equivalent to saying that he was deranged. — They called it Helleborium. —

Pickers Pills to [illegible]

It is frequently prescribed in Amenorrhea &c. The watery extract is milder than the root itself. — Decoction is made from ℥ij to ℔j — Dose ʒ ℥i —

Dose of Fluct. as an Emmenagogue about 20 gtt. 2 or 3 times a day. Dr Chapman says it is most efficient when it [illegible] others differ. — [illegible]

[illegible] is a direct [illegible] of blood, [illegible]

Sedigenous. —

but little smell, and taste, bitter nauseous and acrid. – Its virtues are impaired by age. Water and Alcohol extract its virtues, which are injured by long boiling. It contains a volatile oil, vol. acid and a bitter principle, but has not been analysed. It is a drastic, hydragogue, cathartic, – dangerous when given in an overdose, producing intestinal inflammation. It is also considered as an emmenagogue. Dose as a purge from 10 to 20 grs. – as an alterative 2 or 3 grs. – Dose of Tinct ℥ss. —

— Chapman thinks it ought to be discarded from Mat. Med. —

Spigelia. Pink Root. – The root of the Sp. Marilandica or Carolina Pink. The stem is foursided, and its leaves are opposite, – sessile, – ovate-lanceolate, – & pointed, – Its flowers are in a spike at the end of the stem, – standing all on one side. The corolla is red, funnelshaped, inflated, having its border divided into five segments which turn back, – presenting an interior, yellow surface – Belongs to the Class & Order, Pentandria, – Monogynia. – It is a native of the southern states, being seldom found north of,

Spigelia enjoys a great reputation all over the world for its anthelmintic properties. - It is said to have been employed by the Cherokee Indians, long before it was introduced into regular practice, - by a physician in Carolina. — In small doses, it produces no obvious effect, but in large doses, if it does not purge, it excites dimness of vision. - Spasmodic action of the muscles of the face, &c.

Worm Tea. - Spig. ℥ss. - Senna, Manna, āā ℥ij, - Savine ʒi in ℔j boiling Water. - Dose - Wineglassful. —

* Exotic

the Potomac. It is collected in large quantities in Georgia by the Creeks and Cherokee Indians. - The root is the officinal part, - is generally matted together like Snake Root, having a brownish colour, - faint smell, - slightly bitter taste, and yields its virtues to boiling Water. Powder is grey. - This is generally used as an Anthelmintic, - in large doses it is Cathartic, or when it does not purge, it produces effects similar to a narcotic poison. The dose of the powder is from 10 to 20 grs. for a child, & for an adult ʒi to ʒij. - An infusion is made of ℥ss to a pint of boiling Water. - Dose for a child from 1 to 2 Tablespoonfuls - for an adult, a teacupful. - Senna is often added to the infusion, and Cal. to the powder in order to ensure a Cathartic effect. -

We now come to those plants included under the head of Diuretics, and first on the list stands Squill. - Scilla Maritima, of which the bulb is the part used. It is an herbaceous, perennial plant, growing along the whole borders of the

All portions of the bulb are said not to be equally efficacious. – The internal layers are too fleshy & juicy; while the external are too dry & hard, – hence the intermediate portions should be preserved alone, & much care is requisite in drying them. They attract moisture from the air. – Its virtues are ascribed to a peculiar, acrid principle called Scillatin. –
It is a general stimulant, and excellent diuretic, said

Mediterranean, varying in size from that of a man's fist, to that of a child's head. From the bottom of it proceed radicles. It consists of scales, which are thick and fleshy internally, but externally become thinner. From the top of the bulb spring the leaves, which are long, lanceolate, veined, green, - having a number together from the midst of which rises the flower stem, and on this is a spike with white flowers standing all around it upon peduncles. Belongs to class and order, Hexandria, Monogynia. - To prepare it for use in its native countries, it is sliced transversely and carefully dried. - The bulbs are of different colours, varying from white to red, hence also there is a great diversity of colour in the powder. - It should be kept in a dry place, because it deteriorates by moisture. - It yields its virtues to Water, Alcohol & Ether, - the latter is a most excellent solvent. - In recent state, it is juicy, nauseous, bitter & more acrid than when dry, but by drying, it does not lose its medicinal powers. It is emetic in large doses of 60 & 80 gs. - violent & seldom used, but is generally employed

to act directly by stimulating the vessels of the kidneys. Dose from 1 to 3 gtt. - 2 gr. morning, noon & night usually, & diminish it, if it produces sickness. - Nausea is a sign of operation, - & the more a person can take without its producing that effect, the more apt will it be to act upon the kidneys. -

The Vinegar, & Syrup or Honey are occasionally given to infants as emetics in the dose of about 2 teaspoonfuls for a child 2 years old. -

Squill & Calomel is an excellent combination for Dropsy. - The first acts upon the kidneys, - while the second stimulates the absorbents. - Useful in Hydrothorax, Ascites &c. - The best plan, however, is to give these medicines in separate pills. - Cal. 1 gr. - Squill 2 gr.

Squill is a stimulant expectorant & consequently should not be prescribed where any excitement exists. - It is useful where the bronchial vessels appear loaded with mucus. - It probably operates by coming in contact with the secretory vessels, thro the circulation, & stimulating them to prepare

ployed as a diuretic and expectorant. When given in substance it is usualey in the form of pills. — Of its preparations &c. we will speak in our next Lecture. —

Eighth Lecture Nov. 28. 1833. —

The officinal Preparations of Squills are - Acetum Scillæ, - which is made by adding Scillæ ℥iij to 2pts dist. vinegar, - and add ℥i of Alcohol, so that its decomposition may be retarded, and consequently it may be better ~~prepared~~ preserved. Dose med. f℥i - Syr. Scillæ, - made by adding 2 lbs of Sugar to a pt. Acet. Scil. - it is generally used as an expectorant, - dose for an adult, f℥ss to f℥ij. - The Oxymel scil. is prepared in the same way, except that honey is used instead of sugar. - Mel Scillæ compositum or Coxe's Hive Syrup, is composed of Squills, Senekа and Tart. Emetic as the active ingredients. In order to keep well during warm weather, it should have a spec. gravity of 1.21 or even 1.3. — The proportion of Tart. Emt. is 1gr. to the f℥i. - It is used as an

action. - Dose 1 gr. Several times a day. - The acet. Syr. or oxy. are generally preferred. - Dose of Acet for an adult ℥i. - Syr. or Oxy. ℥ij. - often joined with Vin. Antim. —

Indigenous & Exotic

expectorant and emetic in children. Dose from ten drops to a ℥j. – Tinct. Scil. – ℥iij to 2 pts die Alc. Dose 30 drops.

Taraxacum. – Dandelion. – The root of the Leontodon Taraxacum. – An herbaceous, perennial plant, found in all parts of the Globe, – usually presenting its yellow flower in grass plats every where. The root is spindle shaped, – extends deep down in the ground, – sending out numerous radicles, – and is of a reddish colour. – Directly from the roots, spring up its radical leaves, and from the midst of them rises the flower-stem each bearing a flower. The leaf is long, pointed and runcinate. Belongs to the Class Syngenesia, that is a class containing those plants which have a number of florets associated together. – This class is divided into Orders according to the disposition of the florets in the disc and in the ray. The Tarax. belongs to the Ordo Æqualis, because the florets in the ray are like those in the disc. – All parts of this plant is wounded, emit a milky juice, especially the root. This is most abundant in the month of August, and

It is beneficial in chronic affections of the liver, in ascites connected with enlarged liver &c.

Indigenous

consequently this is the proper time for collecting it. - The root is most efficient in its recent state, - is several inches long, when dry, brownish externally, - internally, whitish, - has a sweetish, mucilaginous, bitterish taste, - no odour, - imparts its virtues to water by decoction. - It is diuretic, and slightly tonic, with some tendency to operate on the bowels. - It is used in dropsy, liver complaint &c. - A decoction is made of ℥ij to a pint, and as much as the stomach will bear, is given for a dose. - The extract is officinal. - Dose 20 or 30 grs. 3 times a day. —

Cochlearia Armoracia. Horse Radish, - is a perennial, herbaceous plant, with radical leaves, large, lanceolate, pointed, - bright green colour & scolloped. - The root is tapering, - from which a long stem rises to a considerable height, - and at its extremity are small white flowers. - Belongs to the Class Tetradynamia, i.e. plants having six stamens, four of which are of an equal length, but longer than the two remaining ones. - When they have four sta-

Exotic

mina, two of which are longer than the other two, they are Didynamia. – Order, – Siliculosa, v.s. fruit about as broad as it is long. – It has a pungent odour, and a pungent, acrid taste, said to depend upon a volatile oil. – It is stimulant, especially promoting the urinary secretions, and is generally employed as an adjuvant to other medicines. – It is preserved by being kept in dry sand or by being scraped and put in Vinegar. Dose Thirty more.

We have hitherto mentioned those roots belonging to the classes Cathartics, Emetics and Diuretics, but we come now to speak of one embracing all these three properties in itself, and this the Colchicum. – Meadow Saffron. The bulb is the part designated by the Offi. term Colchici Radix. – It is a perennial, herbaceous plant, and its efficacy depends much upon the time when it is collected. We will commence our description of it, as it appears in the fall or in the latter part of summer, because then the bulb is of the full growth, – covered with a lamella of a dark

reddish brown colour, - and just begins to send off an offset, from which rises the flower of the new plant, - it stands on a long tube, - is of a beautiful pale purple colour, - appears in Autumn, August.
The young bulb sent out from the old one, goes on increasing at the expense of the latter. - In spring the fruit begins to take the place of the flower in the shape of green capsules. By the end of Summer, the new bulb has attained perfection, at the expense of the old one which has perished, and the seeds are now visible. This bulb now gives out its new shoots, and in its turn decays. Every bulb gives out 2 shoots, one of which often flourishes, while the other pines away and dies. -
Thus we see if the plant be collected early in the spring, it is very inefficient, because the young bulb has not attained sufficient growth, and the old one has given out a great portion of its nourishment to support the young, but the proper time is at the latter part of Summer, from June to August. - when the young

The bulbs, when recent, contain an acrid juice; – they are not laminated but solid, – gray externally & white within. – It is generally sliced & dried; – & the slices are either pearshaped (when sliced vertically), – or have a notch on one side (horizontal slices), – which is deep in proportion to the age of the bulb. –

bulb has attained its full growth and the old one has decayed. – So different are its effects arising from the foregoing circumstances, as well as perhaps the nature of the soil, that sometimes whole roots have been eaten with impunity, while at others 3/4 has proved fatal. – The bulbs are about the size of the tulip, pear shaped, – having on one side a hollow running down for new flower stem; which is not so provided for the one on the opposite side. – Under the external covering the bulb is much lighter, – and within, it is white and starch-like. —"—

Ninth Lecture Nov. 30th 1833. –

The Colchicum is a native of Europe, growing in meadows, moist places. – Attempts have been made to cultivate it in this country, but have not been carried to a very great extent. It should be cut and dried as soon as it is removed from the ground, to prevent its germinating. The dried bulb has no odour, – a bitterish, hot, acrid and durable taste, – among its constituents has been noticed.

Veratria was procured by Pelletier & Caventou, in combination with Veratric Acid;- it is white, pulverulent,- insoluble in Water,- soluble in Alc.- forms uncrystallisable salts with acids, & is very acrid. -Dose 1/12 gr.- Col. imparts its virtues to Vinegar & Wine, & alle to Alcohol & Water. -

It was first introduced into practice by Baron Stoerke;- it increases the urinary secretions,- but is seldom used,- its place being supplied by Squill.-

Its first effect is to act upon bowels, & if this is checked its action may be directed to the skin or urine.-

It was the chief ingredient in the Eau Medicinale so celebrated for the cure of Gout &c.

It is useful in Gout, Rheumatism & Neuralgic Affections,- but not equally so in all the different stages. Also given in severe, local pains, without swelling or any signs of Inflammation,- but if there be any Inflam. first reduce the excitement by depletion

It is well adapted to chronic cases of Rheumatism &c. & may be united with Morphia advantageously.-

a peculiar alkaline principle, called Veratria, upon which its active properties are supposed to depend.

It produces a general influence over the nervous system, without disturbing the brain like other narcotics, and in large doses vomits & purges violently. In smaller doses, it purges moderately, and has a tendency to excite the secretions of the skin, urinary organs &c. In overdoses, the vomiting and purging are accompanied by with great prostration. - The nausea which it excites is excessively great. - Sometimes it acts as an opiate. - It acts with energy in the cure of the gout, but should never be given unless prescribed by a physician on account of its dangerous effects. Dose bulb 2 to 8 grs. -

The seeds ripen in summer and may be collected in July and August, - They are small, nearly spherical, of a reddish brown colour, - and their virtues reside principally in the husk, consequently they should not be bruised for preparing the wine or tincture. They are analogous to the bulb, possess similar properties, and are used under similar circumstances. — The seeds are more likely to be certain in their operation. -

Bing h. 4

×Exotic

The officinal preparations are Acet. Colchici, made as Acet. Scillæ. Dose 30m. to ℥ss. - seldom used. - Oxymel and Syr. Col. - made as O & Syr. Scil. Dose ℥ss to ℥ij. - seldom used. Vinum Col. Rad. is the form in which this medicine is usually administered. - prepared from ½lb. Col. to 1pt. Wine. The wine, must be saturated and consequently should not look perfectly clear, or of a pale colour. - Dose from 10 to 40 gtts. repeated every 3 or 4 hrs. - commence with 10 or 20 gtts. & increase. - It is often associated with anodynes. - Vin. Col. Sem. - prepared from ℥ss Sem. to 1pt. Wine is analogous in its prop. Dose ℥ss. - . -

Another root associating properties similar to the preceding is the Veratrum Album. - White Hellebore. — An herbaceous plant with a perennial root, sends up a stem several feet in height, on which are leaves which are long, pointed, oval, and embrace the stem at their base. The stems terminate in a panicle of racemes. The root is fleshy, spindle-shaped, large above and tapering, and sends out a great number of radicles. - When dry these rad. are cut off. —

Lady Howard

Our market is supplied with it principally from Germany, - it is dark externally, - rough from remains of the fibres, - internally light. - It is a native of the Alps and other mts. of Europe, - all parts of it are said to be acrid and poisonous. - Its taste is at first sweetish then bitter, acrid, burning and durable, but being so old before it reaches our shops, that these effects are in a measure destroyed. The principal interesting ingredient is Veratria, which, when pure, is white, pulverulent, acrid, scarcely soluble in Water, but soluble in Alcohol, and is not reddened by Nitric Acid. - This root, when given in large doses is violently emetic and cathartic, accended with inflammation. - When snuffed up the nose, it is a powerful errhine. Sometimes the extract of it is used as an Itch Oint. - Dose of Root from 1 gr. to ℥i. - of Veratria ½ gr. - An Oint. is made of ℥i to ℥iij Lard. - - -

There is a species of Veratrum growing in this country, which is called Ver. Viride, which is worthy of our attention, from being poisonous in large doses. -

The Green Hellebore has a stem similar to the European variety, as well as a root. - Its leaves are long, nerved, of a green colour, - gradually decreasing in size as they ascend. The flowers are in panicles which consist of branching racemes, each accompanied with a long bracte i.e. long leaf coming out with the flower longer than the pedicels of the flower. Belongs to Polygamia, or Monoecia, i.e. plants having perfect and imperfect flowers on same stalk. By perfect flowers are meant those having stamens and pistils in the same one. - Imperfect are those which have not. - This grows in swampy, low grounds, frequently associated with the Skunk Cabbage, which it resembles in the Spring, before its stem has grown sufficiently to distinguish it. - It is found from Canada to Carolina, & flowers from May to June. - Its properties resemble those of the European plant. - The Caudex sends forth a great number of fibres, and from the upper part a number of scales, rise to form the stem. — — —

*S. American.—

*Cahincu. The root of a species of Chiococca, found in Brazil. It is a shrub in the form of a vine, 6 or 8 ft. in height. - The root is the part used, - which varies in thickness from that of a straw to that of the little finger, - cylindrical, often contorted, brownish ash colour externally; with a brittle reddish-brown bark, in which its virtues consist. - Internally it is ligneous, consequently possessing little virtues. It has a disagreeable, acrid, slightly astringent taste, yields its active properties to Alc. & Waters, - which, it is said depend upon Cahincic Acid (Pelletier and Caventou).
In small doses, it is tonic, - in larger, diuretic, and in larger still, - purgative and emetic. It was formerly used in Brazil for bites of Serpents. - was introduced into Europe as a remedy for dropsy. Dose of powder from ℥i to ℥i - of Ext. 10 or 20 grs. — — —

Twenty Lecture Dec. 3. - 1833. — — —

We now come to the class of roots included under the head of expectorants, and among these, as first on the list on account of its importance, we will mention

Indexcundi

Senecca, the root of Polygala senega, - or ~~Virginia~~ Spiecka Snake Root. - This herbaceous plant has a perennial root, is indigenous, - growing in all parts of the U.S. - but most abundant in the Southern and Western States. From the root, several, erect, smooth, round stems arise annually from 9 in. to 1 ft. in height, which are sometimes reddish at bottom, but green towards the top. - The leaves are alternate or scattered, - lanceolate, pointed, of a bright green colour, and the stem terminates in a close spike of flowers, which are small and usually white. - The stamens are collected in 2 parcels on this spike, in ~~which~~ each of which they are connected together, which constitutes a class called Diadelphia (two brotherhoods), - and as the orders of this class are named according to the number of stamens, this is called Octandria. — In the shops this root is found of various sizes, - thick knobby head, - contorted, and along the side of it runs a cord, which seems to draw the lower end of it towards the upper. It is of a brown, yellow colour externally, - within whi-

Notwithstanding the various analyses of different chemists, they all agree that it contains a peculiar acrid substance, supposed to be alkaline, upon which its virtues depend. — It is much esteemed as an expectorant [illegible] among others by Dr Chapman. Recently it was by the [illegible] Association, which is devoted to the interest of the [illegible] the general return of the Cotyledons, by the [illegible] health. —

It is useful in Chronic Catarrh, — last stages of Croup, — Chronic Bronchitis, when we apprehend Consumption.

A mixture containing this is Mel Scil. Comp. or Coxe's Hive Syrup, — which is given in early stages of Croup, [illegible] It is thus usual to detect [illegible] the Tart. Emetic contained, in [illegible] a simple [illegible]

tish, and is wrinkled transversely. - Its cortical portion is hard and resinous, and contains the active principles of the root but the internal is ligneous & comparatively inert. Its powder is grey. - The odour is peculiar, faint when dried. - Its taste is sweetish & mucilaginous at first, but afterwards pungent and acrid, irritating the fauces. It imparts its virtues to water by long boiling, - and to dil. Alcohol better. - This root is apt to be associated with Ginseng which grows in the same neighborhoods, but is distinguished by the shape and taste. - - Senega is somewhat stimulant, - has a tendency to increase the discharge from the lungs, - also from the kidneys, and in fact operates as a general stimulant more or less to all the secretions. In large doses it is emetic and cathartic. It has been used in the latter stages of complaints of the lungs and chest. - It should not generally be used without previous depletion. Dose, powder from 10 to 20 grs. - But its most convenient form is in decoction - ℥ij to a pt. boiled to a ℔. Dose f℥ij 3 or 4 times a day. - It has associated with Liquorice & Tartr. Ant. - Dose f℥i to f℥ss.

of Tart. Emetic, because we are then free from the stimulating effects of the Vinegar. – In the secondary stages however, or after depletion, it acts favourably. –

*Indigenous –

[illegible] Table for [illegible] Tartar but one [illegible] and by [illegible] formulas, it had been placed on the Table, [illegible] Non-Indigenous, because it [illegible] [illegible] of that [illegible]

Vinicifuga. — Black Snake Root. — The root of the Cim. racemosa — Its Indian name is Cohosh. — It is a herbaceous plant with a perennial root, is indigenous, being abundant in the woods of the U. S. — more observable in July and August when it is in flower. The root sends up one or two stems every year, 4 to 8 ft. in height. The leaves are ternately decompounded, three-lobed, - serrate, - incised & tooth. The flowers are disposed in panicled racemes, - of a white colour. — Belongs to the Class and Order Polyandria, Monogynia. They have delicate calyces which fall down, and the stamens appear the most prominent, standing out like rays. — It grows in moist places throughout the U. States. — The root as found in the shops, consists of a thick tender which runs horizontally underground, is jagged on its upper surface from the stems which proceed from it, - and sends off a number of fibres, which are very long, dark externally, - internally whitish. Its odour is feeble, but peculiar, - taste bitter, herbaceous, somewhat astringent. It imparts its virtues

[illegible]

[illegible]

background

to Boiling Water. It is a tonic, gentle stimulating expectorant, - somewhat diaphoretic, and diuretic. Employed chiefly in chronic colds, - usually in decoction ℞ ℥i to a pt. Dose ℥ij two or 3 times a day. -

Dracontium. Skunk Cabbage. - Gra. Fœtidum. This is a very singular plant, - is indigenous, found abundantly in swamps &c in the U. S. - Has a perennial root which descends 2 or 3 in. and terminates abruptly, sending out a number of fibres 2 or 3 ft. long. The Spathe, which appears before the leaves, is ovate-pointed, - its top droops, - edges are folded, and its base is auricular. - Within the Spathe, stands the Spadix, on which is a flower, appearing in March and April. - Tetrandria, - Monogynia. - The leaf, appears after the flower, is large, - cordate and pointed. - The root should be gathered in Autumn or early in the Spring, and carefully dried. Its distinguishing odour exists in a volatile principle which is soon lost and the root becomes useless. - The bandes is 2 or 3 in. long, - light, rough, and when fresh, if broken

[illegible]

[illegible] principle [illegible]

[illegible] it [illegible] to be [illegible] respecting the [illegible]

[illegible] that [illegible]

[illegible] if [illegible] to. — Science [illegible]

Independent. —

[illegible]

[illegible]

presents a white starchy appearance. Its fibres are light brown, - internally, whitish. -

It is a stimulant, antispasmodic, and in large doses, vomits. It is supposed to have a tendency to act on the lungs. - Dose powder 10 to 20 grs. 3 or 4 times a day.

Arum. Dragon Root or Indian Turnip. - The root of the Arum Triphyllum, - has a perennial, tuberous root, which sends up in the spring, a flower inclosed in a spathe which is ovate and pointed. The spadix is spindleshaped, on which are the male and female flowers distinct on the same plant, hence it belongs to Monoecia, - Polyandria. It usually sends up one or two leaves standing on long footstalks, each having 3 leaflets. Its colour is various, - grows in North and South America, - in damp woods, ditches, & moist places. - The tuber, which is the part used is turnip-shaped, surrounded with a loose-wrinkled epidermis, - internally is white and amylaceous, - from 1 to 2 inches in diameter. - Its most remarkable characteristic is its violently acrid taste, producing a burning, biting sen-

[illegible]

[illegible] is just a subject to contain the [illegible]

[illegible] separate of this may be considered

[illegible] in [illegible] [illegible]

Exotic

sation in the mouth and throat. This acrid principle is very volatile, and can be driven off by heat. - It is not imparted to Water, Alcohol or Ether, but when heated, boiled, and inflammable vapour escapes, upon which its virtue is supposed to depend. - It may be preserved for a year, tolerably fresh in dry sand. It is a violent local irritant. - Given internally, it stimulates most of the secretions. - The recently dried root is preferable. It is generally given in the dose of 10 grs in the form of an emulsion; repeated 2 or 3 times a day, gradually increased to ʒß or more. -

Eleventh Lecture. Dec. 5. 1833. -

Allium - Garlick. - Bulb of the Allium Sativum. - native of Europe, and to distinguish from the garlick so abundantly overspreading our country, it has been termed English Garlic. - It is a bulbous, perennial plant, which sends up at first leaves, and afterwards stems 2 or 3 ft. high, upon which are long, narrow, grasslike leaves. - On the top of it is a spherical mass of bulbs & flowers mingled together, which are enclosed in a spatha,

Turtle and hackney attended with Boat [illegible]
can account for the Turtle mentioned to [illegible]
to [illegible]

that afterwards falls off. — Belongs to Class and Order Hexandria, — Monogynia. — The bulbs usually come in bundles, each bulb is surrounded with a whitish covering of several layers, which being removed we find a number of smaller bulbs called Cloves arranged around a central axis. — The odour of this plant is very familiar, — taste bitter & acrid. — These are attributed to a volatile oil, which can be separated by distillation with water, — it is yellowish colour, pungent and acrid, — and when applied to the skin will sometimes blister. When fresh, the bulb contains a juice which when expressed contains all its virtues, — a bulb will yield nearly ⅓ its weight. — It imparts its virtues to Wine, Alcohol and Vinegar and partially to Water. It becomes impaired or injured by boiling or by being kept too long. —

It is an active stimulant — being directed principally to the nervous system, — it may be classed as a stimulant diuretic and expectorant. Its oil is exceedingly penetrating, diffusing its odour thro' all the secretions, whether ap-

of [illegible] [illegible] [illegible] of [illegible]. —

It is too [illegible] given in the [illegible] stages of [illegible] — when the child labours not only in breathing, but also from apparent diminution of nervous power. —

Dose [illegible], is [illegible] by [illegible] in [illegible] [illegible], [illegible], — [illegible] according to the [illegible] it is the [illegible]. —

[illegible]

4 [illegible]

[illegible]

1. [illegible], according to [illegible] [illegible]. — [illegible] among these, none of them is [illegible] of [illegible].

[illegible] of [illegible] is obtained from 3 species of [illegible], — L. officinalis, — L. siphilitica, — & L. [illegible], — most abundantly from the first. —

plied externally or internally. It is sometimes used as a condiment, - as a stimulant expec. in catarrhal ~~cold~~, asthma &c. - Sometimes it is bruised and applied in poultice to allay nervous irritation. In substance dose from 30 grs. to ʒi. - Dose of juice ℥ss. ~~or ʒi~~ aqr. ℥ij

Allium Cepa is a variety of this - Onion. - used only in domestic practice. - , -

We next proceed to the Class of Diaphoretics. - Sarsaparilla. - is the root of several species of Smilax. - That which is usually found in the shops is not the root of the Smilax Sars. as is generally supposed. This species (Smil. Sars.) is a native of the U. States, - in low, swampy places, and somewhat resembles the Green Brier. Its stem is long, green, climbing, and beset with prickles, - leaves ovate and pointed, - flowers whitish sometimes tinged with red, - followed by a red berry. - Belongs to Class and Order, - Diœcia, Hexandria. - There are different species of this plant found in Mexico and the northern part of S. America. They are trailing plants, beset with briars or spines. -

This comes from the [illegible] of the Prince [illegible] [illegible] [illegible] [illegible] river, [illegible] South [illegible] [illegible] [illegible] [illegible] [illegible].

Brazilian Sarsap. is said to be the best & commands a higher price in Europe; – hence is not brought here. –

There are several varieties of it in Commerce. The most esteemed in our market is the Honduras Sars. which is brought from the Bay of Honduras. It comes in bundles folded lengthwise, and secured by circular turns of the root. - Another variety is the Caraccas Sarsap. - This comes from La Guayra, and is found in bundles like separate roots backed together. Another variety is that from Vera Cruz and Tampico, which has not been long in market. It comes sometimes in the form of the Honduras, - sometimes of the Caraccas varieties. - It is not highly esteemed generally, but judging from its acrid taste, Dr. H. believes that, when cleaned of its incumbent filth, it is the best. - There is another variety called the Lisbon or Rio Negro Sarsa. which is highly esteemed in Europe. It comes from the sources of the Orinoco and Rio Negro rivers, and is distinguished by its amylaceous aspect in the interior. There is another variety sometimes mentioned called the Jamaica Sars. but this is more properly a variety of the Honduras. It has a reddish epidermis. — —

the force of the spiral spring [illegible] [illegible]
on another, [illegible] couple

A temperature of 212° either decomposed or [illegible]
of the active matter of Indigo — probably decomposed
[illegible] and prove to Dr Hancock, who made experiments
with the decoction & infusion. — The Mineral acids had
a powerful [illegible] substituted to Water, afterwards
[illegible] deducted from it to Dr. Hancock. —

The dried roots consist of ~~[illegible]~~ many feet long, are about the size of a quill and wrinkled longitudinally. The colour of the epidermis is usually of ash grey, but various sometimes black, - or reddish. - The bark itself is sometimes of a pink colour, - sometimes it presents a starch-like appearance which was formerly considered an evidence of its excellence, - but is now considered a good evidence of its deterioration. - It has but little odour, - taste mucilaginous, - slightly bitter & acrid. When it has no taste, it is useless, - and its virtues are according to the irritation which it excites when chewed. It imparts its virtues to Water but is impaired by long boiling. - Its best solvent is diluted Alcohol.

There is no article in the whole range of Materia Medica, concerning which there has been so great a change of opinion among practitioners as this. This diversity, however, must be attributed to ignorance of its active principle, and consequently, not being able to prepare it in a proper manner. - For as starch was thought to be the act. prin. they considered that the more a de-

The mode of operation of Sarsap. is not understood. Its results however are obviously beneficial. – It is useful in Syphilis, – Syphiloid Diseases, – Scrofula, – Chronic Rheumatism – some cutaneous affections &c. – By itself it is inadequate to the cure of Syphilis, – & should be given only in the secondary Stage or after a mercurial course. It is used either as Decoct. – Syrup. – or Ext. Sarsaps. – Decoct Sarsap. Comp. – Dose teacupful 3 or 4 times a day. Syr. Sarsap. – Equal in efficiency to Swann's Panacea. Ext. Sars. – Dose 5 to 10 grs 3 or 4 times a day. – The Fluid Extr. is about equal to the Syrup. ~~1 to~~ teaspoon full [illegible] a day. –

Alcoholic Extract, is probably the best prep. –

coction was boiled.- the better,- but the contrary has proved to be true. - The most efficient form of administering it is that of powder.- Dose ℈ss to ʒi repeated 3 or 4 times a day. — A more common form, however, is the liquid. The most efficient perhaps is that of an infusion made by digesting it for several hours in water not above 180°. This is the form preferred by Doct. W.- and which he has used with most success. A Syrup however is often preferred on account of its being more pleasant to the taste. - It is a diaphoretic and diuretic; according to the virtues usually attributed to it,- but it is more probable that it acts by substituting a new action of its own. —

False Sarsaparilla.- Aralia Nudicaulis.- Smale Spikenard.- is an indigenous perennial plant, with a horizontal root, which sends up a single leaf standing on a long leaf stalk, and this divides into 3 leaflets,- sometimes into 5.- Leaflets are serrate; pointed and ovate-oblong. The flowers stand upon a long scape i.e. stalk arising from the root,- which is terminated by 3 small um-

*Oxalee —

beds, each consisting of from 12 to 30 small yellowish or greenish flowers. Belongs to Class and Order, Pentandria, Pentagynia. The fruit consists of a small berry.

Root varies from the thickness of a quill to that of the finger, and generally is found cut in pieces. — It has a fragrant odour, — warm, mucilaginous, and sweetish taste. — It is sometimes used in the country similarly with the genuine Sarsaparilla. —

Twelfth Lecture Dec. 7. 1833. —

We now take up the Class of Demulcent Roots, i.e. those medicinal roots which form a mucilaginous solution with water, and which derive the name from being supposed to soften the surfaces with which they come in contact, — sheathing them, as it were, and thereby diminishing the acrimony of other medicines. —

As the first of these, we shall notice *Glycyrrhiza. — Liquorice Root. — The root of the Glycyr. Glabra, which is a plant with a perennial root, growing in Spain, Italy, in all the southern part of Europe, nearly as well as in Sicily. The root descends to a considerable depth in the loose

sandy soil, - is cylindrical, and has few fibres. - Each sends up several stems branching at their summits. The leaves are compound, - pinnate, unequally paired, i.e. with a single leaflet at the end. The leaflets are ovate, obtuse & mucronate. - The flowers are in spikes upon footstalks which are inserted in the axils of the leaves, - are of a violet or purple colour - It belongs to Class 9 Order Diadelphia (two brotherhoods) - Decandria. - The fruit is a pod containing 4, 5 or 6 seeds. - We have said that it grows in Europe. - It is also found in Syria, Persia, &c, and might be successfully cultivated in the U.S. - It would thrive well in the sands of Jersey. - There is another species of Glycyr. which yields liquorice, - in which the leaflets are pointed, & the flowers are in globular heads. - In this species too, the stipules are very visible, being lanceolate and pointed. - There is also another species which is indigenous, growing in Missouri, called Glyc. Lepidota, but it is not used. - Our market is chiefly supplied from Spain, Italy and Sicily. It is of different thickness, and too well known to need description. It is apt to be wormeaten, and when too

The salts it to agree, that it ought to be an to
possible given to children, when they are about cut-
ting their teeth it must something to clear —

I found a gelatinous precipitate from boiling Water
when cooled. —

much so, should be rejected. It is inodorous, has a sweet, mucilaginous taste, with a slight degree of acrimony, which is said to ~~depend~~ reside in its cortical portion. Its sweetness is said to depend upon a yellow principle called Glycyrrhizin, which, if pure, is scarcely soluble in Cold Water, but very soluble in boiling Water, or in Alcohol, - is insusceptible of vinous fermentation, and forms insoluble compounds with acids. It also contains among other properties asparagin, which is inactive; - and a salt acrid resin, upon which its acrid property depends. -

It is an excellent demulcent, - very useful in catarrhal affections, - best given in the form of decoction with water, - and is often added to acrid substances, to obtund their acrimony. - Its powder is recommended to prevent pills from adhering together, or to give them due consistence.

The Extr. Glycyr. is obtained by boiling ℥i for a few minutes in a pt. of water, pour it off and evaporate it. - This ext. should be dent a shining uniform fracture, - but if it presents an irregular fracture, - or is soft, it is not good. - Sometimes it contains copper from the boilers which may have been used. -

Judgment

Entered and Recorded upon the Minutes of the Court, the day
and year aforesaid, which said [illegible] and
[illegible] the [illegible] thereof, in my office.

It is much employed to allay cough &c. by putting a piece and allowing to dissolve gradually, in the mouth. - Refined Liquorice is made by dissolving the extract in Water without boiling, straining and evaporating. - Sugar or Gum is often added to the decoction. - The Pontefract lozenges are the most mild preparation. ——

× Panax quinquefolium. Ginseng. Has a perennial root, - is indigenous, annually sends up herbaceous stems, which support 3 leaves at the top, each consisting usually of 5 leaflets, which are ovate, acuminate, and deeply serrate. The flowers are in small umbels standing upon footstalks which arise from the top of the stem, - are of a greenish colour, and followed by flattened, kidney-shaped, scarlet berries. - Belongs to Class & Order Polygamia (having some perfect, and some imperfect flowers upon the same plant) - Diœcia. - According to American Botanists to Pentandria, Digynia. - It is very abundant beyond the Alleghany Ridge, - found also on this side. It also grows in Chinese Tartary, - forming an article of commerce. - At one time, before it was much known in

our country, the Chinese considered it as worth its weight in Gold. The root is 2 or 3 inches in length, spindle-shaped, yellowish externally, but lighter internally. - It is not much used as medicine.

Althaea. Marsh Mallows. - root of the Alth. Officinalis. It is an herbaceous perennial, has a horizontal root, from which proceed a number of fibres, - it sends up several erect stems, bearing 3 incised, three-lobed leaves. The flowers stand on peduncles which are inserted into the axils, - have corolla with 5 segments, - of a pale purplish colour. - Class & Order, - Monadelphia. - Polyandria. The fruit consists of numerous circular capsules, arranged in a circular form, having the appearance of a cheese. - Each flower has a double calyx. It is a native of our marshes, - but what we employ is usually imported. - It is of different sizes varying from the thickness of a straw to an inch in diameter. With its epidermis, it is of a yellowish colour, but we generally find it in the shops deprived of this, presenting a whitish appearance. When chewed, it is mucil-

[illegible]

[illegible]

× Crolie

[illegible] signifying Cropping. — [illegible] up a number of [illegible] stand, which [illegible] with a [illegible] stone. — [illegible] [illegible] Stones. — [illegible]

N. [illegible] another [illegible] in N. England. —

[illegible] about N. [illegible] upon [illegible] principle. — [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

ugenous in proportion to its excellence. – There is another species, – Alth. rosea. Hollyhock. – which differs in having 5- or 7 lobed leaves, – possesses similar properties. –
In Europe, Alth. is used as a demulcent, but in this country is not much used. —:—

We now come to that Class of Roots called Astringents, which comprehends those roots which cause the parts with which they come in contact, to contract. –
Krameria Rhatany. The root of Kram. Triandria, a plant or shrub growing in Brazil, – in the sandy soil of Peru. The root is divided into a number of branches, very dark colour externaley, internalley light and ligneous, – of various sizes. – Its virtues reside chiefly in the cortical portion. It is inodorous, – has a bitter, very astringent, slightley sweetish taste. – Imparts its virtues to boiling Water & Dil Alcohol. Powder, red dirt. Tincture of a deep red. – Its incompatibles are those substances which are incompatible with tannin.
It is tonic and very astringent. – It was first employed in S. America, as a remedy in dysentery and diarrhoea,

[illegible] by a French [illegible] remedy [illegible]

It is said to be an excellent remedy in profuse and irregular menstruation.—

Clarke

and as a local application to spongy gums. Dose of the powder is 20 to 30 grs. - It is more employed in the form of decoction ℥i to a pt. boiled. - Dose f℥i to f℥ij. An ext. is obtained by boiling straining and evaporating, - is of a reddish black colour, - very astringent. Dose 10 or 15 grs. - Tincture is prepared by macerating ℥iij in a pt. of dil. Alc. for 2 weeks. Dose f℥i to f℥ij. —

Thirteenth Lecture Dec. 10. 1833. -

Bistorta. - is officinae in London Phar. but not recognised in the U. S. Phar. - The root of the Polygonum bistorta. - Belongs to a genus common in our country, a species of which grows along our gutters &c. It is a perennial root, sending up several herbaceous stems 1 or 2 ft. high. - Leaves partly radical, and partly from the stem. - The radical are lanceolate, cordate, on long footstalks, - those of the stem are lanceolate amplexicaul. Flower in a spike at the summit, of a pale rose colour. - The calyx is wanting which distinguishes this genus. - We may mention that Buckwheat belongs to this genus. - Bistort is

is a native of Europe and the North of Asia. The root is the part used, - is cylindrical, compressed, pre-horse, furnished with numerous fibres, - dark brown ext. with annular wrinkles - but it is used when good as the astrin. roots are generally. - Inodorous, - very astringent taste from the tannin contained. - It will answer for astrin. purposes, but is seldom used in this country. Dose of powder 20 or 30 grs. -

Rubus villosus. - Blackberry Root. - and Rubus Trivialis. Dewberry Root. - The genus Rubus comprehends many different species of indigenous plants known as the raspberry, blackberry &c. - Have a perennial root, sending up stems partly ligneous, partly herbaceous, - of various height, - armed with prickles. - The colour of the old stem of the R. villosus is a reddish brown, while that of the new is green. Its leaves are ternate or quinate, - ovate, pointed, serrate, - flowers white, in terminal racemes - has five petals, - calyx five-cleft. Belongs to Class and Order, - Icosandria. - Polygynia. - The fruit is a berry divided into a nu-

It is often given to Children, boiled in milk, — in the secondary stages of Chol. Infantum. —

of small apartments, each containing a seed, hence called one seeded acini. - The Dewberry differs from the Blackberry chiefly in its growth. - It runs along the ground, is found in harvest fields, & neglected land, - the blackberry along fences &c.

The off. portions are the roots, which are ligneous. - branching - cylindrical. - That of the villosus dark brown ext. - striated longitudinally, - int. reddish. - of the trivialis, not so red. - Both contain a large proportion of ligneous matter which is comparatively inert. - The active prop. reside in the cortical portion - It is inodorous. - bark, bitterish, strongly astringent. - impart its virtues to boiling Water and Alcohol.

Roots are Tonic and Astringent. - Useful in diarrhea, & chronic dysentery. - Generally used in decoc. - made by boiling ℥i of the small roots bruised in lb pts of W. down to 1 pt. - Dose. wineglass ter vel quater die.

*Geranium. - Cranesbill. - root of the G. maculatum is a native of our country, growing in moist shady woods with a loose soil, - flowers of a light purple appear

from May to July. The root is perennial, horizontal, - stem rises about 1 ft. high, always branching at a certain height into 2, each of which again branch into 2 more, - hence called dichotomous. - Has, no. of leaves, both radical and arising from the stem. The rad. are supported upon long hairy footstalks. - irregularly incised, - 5 lobed, - sometimes spotted with white. - those of the stem are opposite. - The pedunc. arise from the fork of the stem, bearing each 2 flowers on pedicels. - There are also small stipules. - Belongs to Class and Order. - Monadelphia, - Decandria. - Fruit consists of 5 capsules, adhering to the pistil, which when ripe, curl up & scatter their seeds.

The root when dried is smaller, very ragged, beset with many fibres, - rather flat. - 1 or 2 in long. - about ¼ in in diameter. - brown ext. - greyish, red int. - Taste astringent without bitterness. - Frequently given in the form of boiled in milk. - Imp. virtues to W. & Alc. - Used in diar. - bowel complaints. Dose, pow. 20 or 30 gr. Decoc. ℥i in 1½ pt of W. to 1 pt. Dose wineglass 2 or 3 times a day.

Tormentilla. Root of Tor. Erecta, is not a native of this country, - is a perennial, herbaceous plant, root horizontal with a number of fibres, - sends up several stems 6 or 9 in. high, branching towards the top. Leaves are composed of 5 or 7 leaflets, terminal are larger than those at the base, - ovate, lanceolate, pointed & serrate. Flowers are small, single, yellow, on axillary peduncles. - Nat. Order. Icosandria, - Polygynia. - Brown in Europe is not much used here. - Dried roots are contorted, somewhat round and flat, full of tubercles and fibres, very solid, hard, brittle, - brown ext. - int. reddish. Odour very slight rather aromatic, - taste very astringent. Generally used as the other astringents. - Dose 30 grs to ℥i.

We now come to the Class of Tonic Roots, i.e. those calculated to increase the vital powers of those parts with which they come in contact. As the first of these, we shall notice × Columba. - Columbo. The root of the Cocculus palmatus or Menispermum palmatum - is a native of Mozambique & S. Eastern part of Africa. It was long unknown to Botanists, but is now ascer-

[illegible]

tained to be a vine, having a perennial root, which descends perpendicularly, and has at the bottom, a great number of offsets, which are the parts collected: while the old root is rejected. Leaves are palmate, 5 lobed. Flowers are in compound racemes. As before mentioned it is a native of Mozambique, opposite Madagascar, growing in the forests. The root is dug up in March, sliced, dried, and exported. The old or upper part is woody, - the offset fleshy. - As found in the shops, the root is in flat, circular pieces, which have been sliced, from ⅛ of an in. to an in. in thickness, - circular, and 1 or 2 inches in diameter. - Cortical portion is greenish, - more yellow and spongy internally. - It is often marked with concentric circles and radiating lines. - It has sometimes been adulterated with white bryony, tinged yellow by the tincr. of Colom. - but this is not shrunk internally - has not the firm cortical portion, and is easily detected. - is a purgative, but not used. - Columbo has a peculiar somewhat aromatic odour, - bitter, aromatic taste, - powder of a greenish tinge, and becomes brown by age & ex-

[illegible]

[illegible] of Rocks, [illegible] of the [illegible] Rocks, [illegible] either [illegible] nor [illegible] projected. –

[illegible] that I [illegible] to be found in [illegible] into perfect. – It has [illegible] of a [illegible] [illegible] by Chief. Cost. –

[illegible] into Compartments [illegible]

posure. - In selecting Colomba, those pieces are best, which are of the brightest colour, - most compact and uniform, and most free from wormholes. The cortical portion is most efficient. It contains a volatile oil, ⅙ of its weight of starch, and a bitter principle called Colombin, - this is slightly in water, alcohol or ether. - very intensely bitter. - more soluble in boiling &c. - The test of this root by which it is distinguished from bryony and other adulterations is Iodine. - If a part of the root be wet with hot water, and Tinct. Iod. applied, it will turn black, - owing to the starch present.

It is tonic, without astringency and slightly if at all stimulant. - used in dyspepsia &c. - Generally given in the form of Infusion, - made by macerating ℥ss. in 1pt. of boiling water, with a little ginger & senna added. - Dose - wineglassful 3 times a day. If the inf. be long boiled, the vol. oil is driven off, and it becomes slimy from the starch. Dose powder 10 to 30 grs. - It is much used by the natives of Mozambique & Africa in dysentery, & the like — . — " —

Vertpaand

Fourteenth Lecture Dec. 12. 1833. -

There is a fashion prevalent in our country of attaching the names of foreign roots to those which resemble them in this country. Such has been the case with the root to which we now turn our attention - the American Columbo *Frasera. - root of Fras. Walteri. - One of our most beautiful indigenous plants, - grows in the Western States, especially those South of the Ohio. The root is horizontal, and sends up stems in the third year, - previous to that the radical leaves appear. - The stem rises from 5 to 10 ft. high; - is erect, strong, smooth, yellow, and on it the leaves are placed in whorls, i.e. all springing from the same point of the stem branching out like a star. - The distance between these whorls, and the size of the ~~stem~~ leaves diminish as we approach the summit. Leaves are oval, obtuse; radical about 1 ft. long, the upper ones shorter, lanceolate and pointed. It presents a beautiful pyramidal summit of flowers, of a yellowish white colour, from one to five feet long. Belongs to Class and Order, Tetrandria, Monogynia. It has 4 petals, and calyx is divided into 4 segments. -

[illegible]

The fruit is a flat capsule, yellow, has the margin thinner than the middle portion, ends in a point. — —
The Root when taken from the ground is cut in transverse slices and dried. The slices are irregularly circular; ⅛ of an inch or more in thickness. — yellowish brown cuticle, internal portion yellow, and somewhat depressed like the Columbo, but it does not present the striated and concentric appearance. It differs also from Columbo, by not being affected by the tincture of galls. Water or Dil. Alcohol extracts its virtues.

It is a bitter, mild tonic. — Dose of the powder 30 grs to ʒi. — An infusion is made by macerating ℥i in ℔ʃ of boiling water, — Dose, a wineglassful 2 or 3 times a day. —

Gentiana. Gentian. Root of the Gen. lutea, growing in the mountainous regions of Europe. — It has a thick, long, branching, perennial root, from which rises an herbaceous, erect stem, 3 or 4 ft. high, from which pass out the leaves, opposite & nerved. The flowers are disposed in whorls at the axils of the upper leaves on peduncles. — Belongs to Class and Order, Pentandria, Digynia. — —

[illegible]

The corolla is divided into 5 segments. - Has one petal. The characteristic mark by which it may be recognized is its germ, which is large and cancellated, divided into 2 stigmas or pistils at the top. - There are several species said to yield this root for commerce, but they are comparatively unimportant to us. - That with which our market is supplied is generally imported from Germany. - The dried root is in pieces of various sizes, - wrinkled, twisted often, - yellowish brown - ext. - int. yellow. As found in the shops, it is often flexible, but when dry it is brittle. - Sometimes it comes in slices from a large root. Its texture is spongy, - has a peculiar, but feeble odour, - sweetish, very bitter, but not nauseous taste. It imparts its virtues to Water and Alcohol. Its most important principle is a bitter ext. called Gentianin, - is a yellow crystallizable substance; sol. in Ether, Alc. and boiling Water, - slightly in cold Water, neither an alkali or an acid. It contains also sugar, hence its infusion will if properly treated undergo the vinous fermentation, forming Gentian Beer, which

[illegible]

[illegible]

[illegible]

is much relished by the Swiss and Tyrolese.

Gentian is a powerful and excellent tonic, improving the appetite, strengthening the digestive organs, in fact invigorating the powers of the system generally. Like other tonics, it vomits and purges in large doses. Dose of the powder is from 10 to 40 grs. - but it is generally given in infusion, made from 3ss to a pt. of boiling Water, and add some Orange Peel & Coriander Seed, - sometimes a little Alc. - Tinct is made also with similar additions. Dose 1 or 2 teaspoonfuls. - The Wine of Gentian is a good tonic of the kind; but here we may remark once for all, that tonics when given in form of Tinctures are at least inert, and frequently injurious, because the Alc. contained is more than a sufficient stimulant to counteract the tonic effects, besides the danger that the patient will imbibe a fondness for Ardent Spirits from the physician's prescriptions. - The Extract is very useful - obtained as usual by boiling & evaporating. Dose 5 - 10 or 20 grs. - Very frequently given in the form of pills. — . —

Our commerce is supplied chiefly with bales from West
of the Alleghany, - Pittsburg, - Wheeling &c. —

Serpentaria. Virginia Snake Root. The root of the Aristolochia serpentaria - is a native of our country. This is a herbaceous plant, with a perennial root, which has a knotty caudex, and from this proceed a great no. of fibres, yellowish when fresh, - become brown by age. It sends up several stems, which are round, flexuose, jointed, slender, from 5 or 6 in. to 1 ft. high. Leaves are oblong-cordate, - pointed, standing on short footstalks, at the joints of the stem. The flowers stand on long, jointed footstalks, - often concealed under the old leaves. Belongs to Class and Order Gynandria, Hexandria. - In flowers belonging to this Class, the stamens are inserted into the pistils. Has no calyx. - corolla is simple, tubular, expands at the base, - contracts towards the top, and again expands at the top, terminating in lips. - Fruit consists of capsules, with several flat seeds. It grows very abundantly beyond the Alleghany and is also found on this side. - There is another species of this called A. hastata, from its hastate leaf. containing similar properties. - Another species called

If given in large quantities, it may produce nausea, griping & even tenesmus. —

[illegible] employed as a purge [illegible] from the fresh secretions of the stomach and the intestines it means from its superior power in promoting the [illegible] of the bile of a cathartic. —

It is now considered a stimulant tonic & antiseptic — It is used in slow fevers, low forms of disease, but such are supposed to require the use of stimulants. — [illegible] it [illegible] to alternate this with the [illegible] opiates & Brandy. —

[illegible] Colocynth, [illegible] purge [illegible] but [illegible] cut, [illegible] [illegible] [illegible] on account of a change in the [illegible] [illegible]

Aris. Tomentosa, which is a vine ascending to the tops of the highest trees, - grows in the western country, especially on the banks of the Mississippi.

The Serp. found in the shops, is often mingled with leaves and dirt, and also with the root of Spigelia, which is distinguished by its being larger, and wanting the odour and bitter taste of Serp. - Serpentaria has a pleasant, aromatic odour, and a bitter, arom. taste. Its powder is grayish. It imparts its virtues to boiling Water & Alc. - These virt. depend upon a volatile oil, and a bitter extractive matter. — hymn by boiling. -

It is a stimulant tonic; well adapted to the approaching low stages of diseases, particularly those of a typhoid form. Dose of powder from 10 to 30 grs. - Inf. made from ℥ss. to 1 pt. boiling water. - Dose ℥i to ℥ij Tinct is of a greenish yellow colour, very bitter, - subject to the objection beforementioned. Dose ℥i to ℥ij - -

In Europe, several other species are employed, which are generally vines. Aris. longa has a root from 2 to 4 inches long, prismatic, somewhat tapering, sending off a no. of whitish fibres. —

partly [illegible]

Aris. rotunda, has a root nearly round, irregular and full of knobs. - Aris. Clematitis is not used. —.

Inula Elecampane. The root of the Inula Helenium is a perennial, herbaceous plant, a native of Europe, but has become naturalized in this country, growing in meadows, and along the road sides. It has a long, thick, fleshy, spindle shaped root, sending up a stem several feet high, on which are leaves, sessile, amplexicaul, ovate, pointed, serrate. - Flowers are compound, of a golden yellow colour, stand singly at the ends of the stem and branches. Belongs to Class Syngynesia. i.e those plants which have a number of florets connected together, and each floret must have the stamen perforated in the form of a tube, thro' which passes the pistil dividing into two at the top. - This class is divided into orders according to the situation of the florets in the ray & in the disc. - This plant belongs to the Ord. Superflua because its disc florets are perfect, having both male & female; and its ray florets are imperfect, having only female. Root should be dug up in Autumn, and taken from

plants which are 2 years old. They are thick and branched, having whitish, cylindrical ramifications. Int. the colour is white, and a transverse section exhibits radiating fibres. Before being dried, the root is cut longitudinally or transversely, and when dry is yellowish brown ext. — int. dull white. — Has a peculiar odour slightly resembling Orris. — Its taste is at first, nauseous, then warm, aromatic and bitter. It imparts its virtues to Water and Alcohol. — It may be worthy of notice to remark that it contains a principle said to resemble Starch called inulin, — but it differs from Starch, by being precipitated unchanged from its solution in boiling Water, and not yielding a blue colour with Iodine. — It also contains Camph. and a bitter extr. upon which some virtues depend. —

It is tonic, gently stimulant, and is one of those remedies which stimulates all the secretions, or particular ones according to circumstances. It has been used in complaints of the lungs. — Dose powder ℈ ss to ʒi. — Decoc. made from ℥ss to a pt. of water. — Dose. wineglassful. — — —

Fifteenth Lecture Dec 14th 1833 –

Coptis. Goldthread. The root of the Coptis trifolia, – is an evergreen plant growing in the northern parts of Europe and Asia, – in low, and cold swampy places. In appearance it resembles the strawberry. – Has a perennial, horizontal root, slender, and bright yellow, – sending out thread-like fibres. – The crown is covered with scales and from this ascend the petioles and flowerstems. The leaves are ternate, having 3 leaflets which are sessile obovate, acute at their base, lobed at the edges, and are nate or scolloped. The flowers stand on scapes which are longer than the leafstalks, are single, of a whitish colour. Belongs to the Class & Order, Polyandria, Polygynia. Has from 5 to 9 petals, starlike, pedicelled. – The root is officinal. – When dried, is in loosely matted masses, of roots, leaves and stems, – dark yellow, thread-like appearance. It has a strong purely bitter taste, resembling quassia in this respect, as well as in its medical properties. – It is a simple tonic bitter. – used in New England in aphthous sore mouth. Dose 10 to 30 grs. – Inf. made and used as quassia.

We now come to some roots which are both tonic and astringent in their properties, one of which is the Geum Urbanum. Root of Avens. - It is an herbaceous, perennial plant, native of Europe, and grows in woods and shady uncultivated places. The root consists of a candex which sends out a number of fibres, - portions of which are frequently found attached to the dried roots. In a recent state, the root has a pleasant smell somewhat resembling Cloves, and a bitter astringent taste. When dried it is inodorous, taste bitterish & astring. It imparts its medicinal virtues to Alcohol and Water, tinging them red. Its properties probably depend upon an essential oil, which is obtained by distillation. - It is much used in chronic hemorrhage, diarrhea &c on the Continent, but very little employed in this country. Dose from 3ß ad 3j.

Another root of this class is the Geum. Water Avens. - root of the Geum Rivale, - more worthy of our notice because it is a native of this country as well as of Europe. It has a perennial, horizontal, tapering, jointed, scaly root about 6 inches long furnished with a number of

descending radicles. From one end of it, ascends one or more stems, branching at top, and supporting a flower. Leaves are radical, and on the stem. The radical are interruptedly pinnate, i.e. having alternate small, and alternate large leaflets, — with large terminal leaflets, on long footstalks. The upper leaves are ternate, serrate, petiolate. Belongs to Class and Order Icosandria Polygynia. It grows in low, wet boggy meadows. — Dried root is hard, brittle, of a reddish colour. — bitter astringent taste; — inodorous. — It is seldom employed, but may be used in passive hemorrhage, chronic diarrhea &c. Dose ℈j to ʒj. Decoc. is made by boiling ʒj in a pt. of water. Dose ℥ʒj to ℥ʒij. — — —

We now take up the Class of Roots called Stimulants, and first we shall notice Contrayerva. The root of the Dorstenia Contrayerva, — is not a native of this country. It has a perennial, spindle-shaped root, with a number of descending fibres, sending up several leaves upon long radical footstalks, — lobed, pointed, serrate. — The scapes are also radical, supporting the flowers upon a

peculiar, cup-like receptacles. - This plant grows in Mexico, W. Indies, and some parts of S. America. - Root, when dried, is spindle shaped, hard, tough, reddish brown ext. - lighter within. Odour aromatic. - taste warm, bitterish, fragrant somewhat spicy. - the fibres have less of this odour & taste than the body of the root. Its virtues are extracted by boiling Water & Alcohol. - It is a stimulant tonic and diaphoretic, but seldom used in our country. - It was formerly considered as an antidote for the bite of a snake, and hence received its name from the Spanish language, implying this property.)

Zingiber. Ginger. Root of the Zing. officinale. - sometimes called Amomum Zing. - has a horizontal root with few fibres, sending up an annual stem & a scape bearing a spike of flowers at the top. The stem is sheathed, and at the end of the sheathes we find the leaves, lanceolate & smooth. The flower stem is composed of sheathes, but has no leaves, at the top it becomes broader, and supports 2 or 3 flowers. It is a native of the E. Indies & is cultivated in the W. Indies. -

Green Ginger is the root before being boiled or scalded. —

— Barbadoes Ginger is the best kind of E. India Ginger, having a lighter colour. —

Our market is supplied chiefly from the east, and it comes in 2 states. The Black or E. India, and the White or Jamaica Ginger. The E. India is irregularly lobed branched, compressed, covered with an ash-coloured epidermis, except where this is removed presenting the appearance of blackspots, hence its name. but it is wrinkled. The Jamaica is deprived of its cortical portion by scraping, is of the same general shape, but more uniform & cylindrical, very hard, hornlike. - produces a yellowish white powder. It is best, because it is most fresh, and should be used in officinal prep. Its odour is aromatic - taste, spicy, pungent, biting, but these diminish and finally disappear by age. Its virtues are extracted by Alc. and boiling Water. Its most important constituent properties are a volatile oil, and an aromatic extractive matter, also gum and starch. The root should be rejected when it is fibrous, light & friable or it should be hard, and its excellence may be considered as proportionate to its bright colour, its strong taste and smell. - It is a stimulant & carminative.

The Tinct. should be a saturated Tinct. —

It excites the parts to which it may be applied. It is often used as an addition to Tonics. Externally applied, it is a good rubefacient. Dose powder 10 to 20 grs. — An infusion is made from adding 1 pt. of boiling W. to ℥ss of the powdered or bruised root, and let it stand till cool, then sweeten it with loaf sugar, and it makes a very pleasant drink. — is an excellent article for expelling flatulence. During the prevalence of cholera. Dr W. recommended to his patients to have this tea always upon their table, and take a wine glassful 3 or 4 times a day. — Tinct. Lin. is prepared by macerating ℥viij in 2 pts of Alc. — this is principally useful as a means of making Syr. Lin. — This is prepared by adding ℥ij of the Tinct. to a gallon of Simple Syrup, — but care must be taken that the Tinct. be strong and of good quality. —

Zedoaria is sometimes kept in the shops, having properties somewhat similar to Ginger, but is little used. —

Angelica. — Root of Ang. Archangelica. — The common Garden Ang. is neither a native of, or cultivated in the U.S.

[illegible] depend upon a [illegible] [illegible] [illegible]
[illegible] [illegible] with a little [illegible]

* [illegible] resembles the [illegible] [illegible] a [illegible] [illegible]
[illegible]

It is a native of Europe, having a long, thick biennial root, with numerous fibres, sending up a stem, sheathed purple, striated, - Leaves stand on round, fistulous footstalks, are doubly pinnate. The flowers are in terminal umbels. Belongs to the Class & Order Pentandria, Digynia. seeds are flat, striated, 2 in a flower. The root should be dug in Autumn, - is exceedingly palatable to be worn eaten, spindles-shaped, from ½ to 4 in. long. It is seldom used here. Its odour is strong and fragrant, - taste, sweetish, aromatic warm. Imparts its properties to Ale, and partially to Water. It is aromatic, tonic similar to Ginger. Dose 30 grs. to ℥j. — — —

* Angelica atropurpurea, - is seldom employed - similar.

* Pyrethrum Pellitory Root. - Root of Anthemis Pyr. The stem is trailing at the base, then rises, and on it are bipinnate leaves, - terminates in a large compound flower. It grows in Spain, and on the Coast of the Mediterranean. When dried, the root is about as thick as the little finger, 3 or 4 in. long. - brown ext. - whitish int. - fissures, - having a peculiar taste, which is first saline, after-

wards acrid & bitter and somewhat sour, producing when chewed a flow of saliva. Its pungency is owing to a peculiar principle like resin and fixed oil. It sometimes acts as a sialagogue, and is useful in headache, and neuralgic affections of the face &c. —

Calamus - Sweet Flag. - Root of the Acorus Calamus grows in the U. S. - also said to be found in Europe & Asia. It is found in wet marshy places, has a horizontal root 6-8-10 or even 12 ft. in length, jointed, with a number of fibres running from each of the joints as well as radical fibres from the lower part of the root. - The sections between the joints are smooth & sometimes greenish yellow. The leaves spring from the root enveloping each other, are very long and sword shaped. Its flower stem is a scape rising with & formed like the leaves, and has an A. a spadix. Belongs to Class and Order, Hexandria Monogynia. The roots are taken from the ground, washed scraped, dried, and brought to the Shops. - Whitish internodes aromatic, taste warm, bitter, pungent & spicy. Boiling Water extracts its virtues which depend upon a volatile

Discovery of an Ancient Tumulus by Flint [illegible]
in Monmouthshire to be carried in the pocket, & [illegible]
[illegible] by those who [illegible] of
plan in the [illegible] form flints &c. —
[illegible]

oil, and an extractive matter. - The root is sometimes found in the hops worm eaten. - It is a stimulant carminative, - excites the stomach, and expels flatus. Dose of powder ℈i to ℈j. - Inf. made in the proportion of ℥i to 1 pt. boiling Water. Dose wineglassful. —

Twentieth Lecture Dec. 17. 1833. —

Valeriana. Valerian. The root of the Val. officinalis. - is a large, herbaceous, perennial plant, having a candex from which proceed a number of fibres, - and it sends up an erect stem, 2 or 3 ft. high, and has radical leaves as well as those on the stem. The radical leaves are the largest and stand on long footstalks. - Those on the stem are sessile. Leaflets are lanceolate, pinnate, and serrate. The flowers are in terminal corymbs, which differ from umbels in having the footstalks of the flowers proceeding from different points of the stem. Other species of Val. are sometimes mingled with this, as the Val. dioica, but this has a diff. root, and is easily detected. - Val. Phu is more similar, and not unlike in properties, so that the adulteration is unimportant. —

Ol. Valer. seems to be developed as the plant dries; it is obtained by distillation; at first green, afterwards yellow.
Valerianic Acid is said to rise with the oil. —

Valerian is too feeble to be recommended upon its
[illegible] properties alone, in [illegible] doses. Inf. of Bath Valerian
It is useful in Hemicrania & [illegible]
[illegible] with Tonics. — Also [illegible] recommended in Pelvic Pains. —

This plant is a native of Europe, and presents two distinct characters, dependent upon its place of growth. That which grows in dry places is smaller, has narrow leaves and is said to be superior in medicinal properties, to the larger variety which grows in moist places. Belongs to the Class and Order Triandria, - Monogynia. The roots should be collected before or after vegetation, - quickly dried, and kept in a dry place. In the shops, we often find part of the stems attached to the roots. The odour of the dried root is stronger than that of the fresh, and it is said to be more pleasing to Cats. - Its taste is at first sweetish, then bitter and aromatic. It yields its virtues to Water and Ale. - They reside in a volatile & oleaginous extractive. - which is obtained by distillation with Water, - has the aromatic taste of the root, without its bitterness.

It is a nervous stimulant, exerting a peculiar influence upon the nervous system, in allaying irregular nervous action. In large doses, it produces pain in the head, sense of heaviness & vertigo. - It is chiefly used in irreg. nervous affections, unattended with fever. Dose 30 to 90 grs. of powder -

[illegible]

[illegible]

An infusion of the root is made from adding ℥i to a pt. of boiling Water. Dose - a wineglassful. - This root should never be used in Decoction or Extract, because its virtues depend upon a vol. oil, which would be driven off by boiling. - Dose of Tinct. ʒi to ʒiiij -

We now come to a few roots which are used as not being included under any particular Class. - Of these, the first we shall mention is Iris Florentina. - Orris. It may be proper here to remark, that all the Species of the Genus Iris, have acrid roots. - This root is perennial, horizontal, tuberous, having a number of fibres proceeding from it which are of a whitish colour, while the root is brown. It sends up a number of radical leaves, which are in clusters, swordshaped, narrow, nerved, and shorter than the stem which rises from the midst of them, about a foot high, bearing at the extremity two large white or bluish-white flowers. Belongs to Class and Order Triandria, Monogynia. - The pistil is a germ supporting 3 Stigmas which look like petals. A Characteristic mark of this genus is that it has

* [illegible]

six petals, 3 of which are upright, and 3 reverted or turned downward. - It is a native of Italy, and the southern parts of Europe, and derives its name from Florence. The root is collected in the Spring, deprived of its cortical portion & fibres, and exported from Leghorn. It is found in irregular pieces, sometimes flattened, - or knotty, - or branched. - is compact, - exhibits the remaining marks of fibres, - white colour, - and when broken, exhibits a compact, but not a shining fracture. The odour is strong, taste bitterish & acrid. - Its chief constituents are starch and a volatile oil. When fresh, if taken in large doses, it is cathartic, - it is said also to possess diuretic properties. The chief purpose however for which the root is that of correcting an offensive breath by chewing. - It is also well calculated for issue balls. - - There is a species of this genus growing in America, worthy of notice, called Iris Versicolor. Blue Flag. This has a perennial, fleshy horizontal root, sending up a stem 2 or 3 ft. high on which are swordshaped, striated leaves. The flowers

Integrations & polar —

are of a blue or purple colour, and make their appearance in June. It grows in moist places, - on the banks of rivers, - meadows &c. The flowers make a good blue infusion for tests of acids and alkalies. The recent root is inodorous, and has a nauseous, very acrid taste. It is not much used in this country, unless occasionally by the country people as a Cathartic. Dose 10 to 20 grs. dim.

* Filix Mas. Male Fern. Root of the Aspidium or Polypodium Filix Mas. - is horizontal, perennial, sends up annually a number of fronds in a cluster. The frond is acute, pinnate, having a number of leaflets, which are lobed, ovate, and gradually approach each other, as they approach the top of the frond. This plant has no obvious stamen or pistil, hence it belongs to the Class called Cryptogamia. - The fruit consists of a number of black spots on the back of the leaflets. - It should be collected in Summer, and it has been said that it is efficient only in its recent state, and that it becomes inert in 2 or 3 days. - The root has a central red with white candex, which runs about 9 ins. horizontally, un-

Male Fern grows in Europe & found parts of U.S. –

[illegible]

An ethereal Extract is said to be efficient. –

[illegible]

der the ground, sending up a great number of fronds, around the base of each are found silky, soft scales, & from between these tubercles issue the fibres. - The roots generally found in the shops are the tubercles with their silky scales, which have been separated from the proper root or fibres. - The internal portion only of the root is active. - It has but little sensible effect. It ~~and~~ is slightly tonic and astringent. The ancients employed it as a vermifuge; and at one time it attained to considerable notice as a remedy for tape-worm used by Madame Nouffer. Dose ℥ss to ℥ij morning & evening for 2 or 3 days. - Decoct. is made from ℥ss to a pt. water. -

* Anchusa Tinctoria. Alkanet. The root of An. Tinct. is a native of the Grecian Archipelago & the South of Europe, has a long, reddish, tapering root, sending up stems, which are procumbent, feeble and hairy, terminating in a cluster of purple flowers. The root, as found in the shops is of about the size of the little finger, of a deep, reddish brown colour ext. - the int. ligneous portion

is whitish, but they are generally so rotten that we do not see these distinctly. When fresh it has a faint odour and bitterish astringent taste, but these are lost by drying. It is chiefly used for its colouring principle, imparting a deep red colour, to Ale, ether, and the oils. Ale coloured with it, is turned blue by adding an alkali and darker red by an acids. It is somewhat an astringent root, but not used in medicine.

Rubia. Madder. The root of Rubia Tinctorum. - grows in Europe. - root is perennial, consisting of long succulent rootlets, with a number of fibres. - It sends many annual stems which are procumbent, and furnished with a number of prickles. The leaves are disposed in whorls. The flowers are in clusters, yellow, on axillary peduncles. The root, after being dugup and dried, is coarsely powdered and sent to market as Madder. The root is covered with an external brown epidermis, but is redder within. - It has a weak, peculiar odour, and a bitter, astringent taste, - It imparts these properties, as well as its colouring matter,

[illegible]

[illegible] volume =

to Water and Alcohol. It contains sugar in such quantities that an infusion of it will ferment & form Ale.

Physicians have little confidence in its effects. When taken internally, it imparts its red colour to the secretions generally. Dose ℥ss, 3 or 4 times a day. –

Curcuma. Turmeric. Root of Curcuma longa. – One or two species ~~[illegible]~~ of this genus yield the Zedoary mentioned page 167. – Turmeric has a tuber attached to the root, from which proceed the stems, terminating in close bracts from the midst of which appear the flowers. – It is a native of the E. Indies, and is cultivated in southern Asia. The dried root of the shops is cylindrical or round. The first are the roots of the Cur. longa, – are 2 or 3 in in length, tapering, yellowish, exhibiting a waxen fracture, – solid and firm, easily pulverizable, forming a yellow powder. The round pieces, – roots of Cur. rotunda, are about the size of a hickory nut, & have a number of circular rugæ. – There is no difference in their properties. They have a peculiar odour, – warm, bitterish, feeble aromatic taste. When chewed, it tinges

[illegible]

the saliva, yellow. It contains an acrid vol. oil, and a peculiar yellow coloring matter, which has an acrid, pungent taste. It imparts these virtues slightly to water, readily to Ale. – It is used for dyeing yellow, but the colour is not permanent. – It is changed to a reddish brown by an alkali, – hence paper coloured with it is a good test for an alkali. –

It is a stimulant aromatic, somewhat resembling Ginger in its operation, but is now not used in medicine, simply employed for its colour.

Seventeenth Lecture Dec. 17. 1833.

Having now treated of those roots from which medicines are most generally obtained, we now proceed to speak of the medicines derived from the stems. And at present, we shall confine our remarks to those stems which are ligneous, first premising a few words respecting the nature or constituents of a stem. – It consists of a bark and wood. The constituents of the bark are first an external coating called the cuticle or epidermis, which in young living is transparent, showing immediately be-

[illegible]

[illegible]

[illegible]

[illegible]

neath it a greenish substance called the cellular integument. It consists of a pulpy matter filled with small cells which contain a greenish liquid. Next to this or what may be considered a portion of this layer are vessels or rather fibres on the inside of the cellular integuments, and in fact imbedded in it, which is called the vascular layer, and next to this, is the liber or inner bark, consisting partly of cells, and partly of vessels, and seems to be the principal portion of the bark. The bark of the root has the same constituents as the stem, differing only from the effect of light. – The ligneous portion consists of 2 parts, the external called Alburnum or Sap-Wood and the internal called Heart-Wood. The wood is arranged in concentric circles, each circle indicating a year's growth. The heart is not necessary for life, but seems to support the stem, but the sap-wood performs an important function - it is in this the circulation takes place. Besides the bark and wood there is always in young twigs an internal portion called the Pith, the object

[illegible]

of which has not yet been satisfactorily ascertained.

With these few observations we now take up individual stems, and the first of these we shall notice is the Hæmatoxylon. Logwood. The wood of the Hæm. Campechianum, which is a middle sized tree, growing on the shores of the Honduras Bay in Mexico. It has a crooked, rough stem, not very high, sending out a nd of rough branches. It has alternate, pinnate leaves, composed of several pairs of opposite, obcordate leaflets, and the flowers are disposed in axillary racemes, of a yellow colour, reddish at the base. Belongs to Class and Order, Decandria, Monogynia. It is very abundant on the Bay of Campeachy, and when prepared for the market, the bark and sapwood are shaved off. The heart is heavy, fibrous, firm, of a deep red colour, which becomes blackish by exposure. It has a slight peculiar odour, a sweetish astringent taste. It imparts its colour to Water and Alcohol. Among its constituents are a volatile oil upon which its odour depends, tannin, to which may be attributed its astringency, and an azotized substance called ha-

Tannatin, & the colouring principle are the two most important constituents. –

It is useful in Chronic Diarrhea & the last stages of Chronic Dysentery. –

matter, upon which its colouring property depends & which is soluble in boiling Water and Alcohol. As found in the shops, it is usually chipped or rasped. — It is a mild astringent, without any irritating properties, hence it is well adapted to many forms of bowel complaints — The best method of administering it is in Decoction, made by boiling ℥j of wood in 2 pts. of water, down to a pint. Dose for an adult a wine-glassful, for a child Tablespoonful — The extract is of a colour rather darker than the root, has a sweetish taste, and is somewhat astringent. Dose 10 to 20 grs. —

Quassia. The wood of the Quassia amara, or the Simarub a excelsa, both of which are recognized in the Pharmacopeia as producing this medicine. — The genus Simaruba is polygamous & has 5 Stamens. — The genus Quassia has perfect flowers and 10 Stamens. Simar. excelsa grows in Jamaica and the W. Indies. Quassia amara grows in Guyanne — is a small, beautiful shrub, with alternate, pinnate leaves, thro' the middle of which passes a long red nerve. The flowers

are in terminal spikes of a crimson colour. Belongs to Class and order Decandria, Monogynia. The quassia found in the shops appears as though it were portions of the trunk or of the branches of the tree, but not of the root as some have asserted. The billets are cylindrical, 3 or 4 ft. long from an inch to near a foot in diameter, covered with the bark. At first, the wood is whitish, but by exposure becomes yellowish, - it is light and porous, inodorous, of an intensely bitter taste, unattended with any other. Water & Alcohol extract its virtues, and a cold infusion if evaporated yields a brown, somewhat translucent substance, which, by Dr. J. has been termed quassin. This is incompatible with no substances used in medicine except Argenti Nit. and Acet. Plumbi. In the shops, it is usually found rasped. —

It is an exceedingly bitter and excellent tonic, having no other properties combined with it, and is much used in strengthening the system in convalescence, by its promoting the appetite, as well as by its tonic powers. —

It was introduced into practice from S. America, from a

negro called Quassie, who used it in the treatment of malignant fevers. - Dose in subst. ℥i to ℥j, but it is not often used in this way. - More generally in the form of infusion, made by pouring a pt. of boiling water on ℥ij wood. Dose ℥i to ℥ij. The extract has the appearance of other tonic extracts, is bitter, and possesses tonic powers superior to any other.

Santalum. Red Saunders. The wood of the Pterocarpus santalinus, - which is a native of Hindoostan. It is brought into our markets in billets from the E. Indies, of a dark colour externally, - red within, - hard and solid. It is usually rasped or in the form of a coarse red powder in shops. - Has little smell or taste. Imparts its colour to Alc. and Ether, and is principally used for colouring tinctures.

Dulcamara. Bittersweet. consisting of both the ligneous and cortical portion. It is the stalk of the Solanum Dulcam. or Woody Nightshade, a native of this country as well as of Europe. It is a climbing shrub, with a perennial root, and we may here mention that it grows a-

hundreds on the bank of the ditch down towards Gloucester Point Ferry. - The stem is procumbent and ligneous, pithy and round. - Leaves are alternate, petiolate, ovate, pointed, full of small veins, - towards the top they are hastate, and sometimes cordate. The flowers are purple, in beautiful clusters, standing on footstalks, which arise from the stem, opposite the footstalks of the leaves. Belongs to Class and Order Pentandria, Monogynia. We have here to remark that the Anthers of this genus are 5 in number, very long, and have two small orifices at their summits. They form a kind of cone, thro which the pistil projects. Calyx small, 5 toothed and persistent. Corolla has 5 petals which are reflexed. Their colour is purplish, and thro the middle of each runs a line of a deeper colour. Fruit is a berry, first green then red which remains after the leaves have fallen. - It grows in damp and moist places, as well as in dry. - The latter has been said to be the best, but this is doubted. - It flowers from June to August, and for medicinal use, should be collected

It has a sedative influence on the Generative Organs.—

Frequency.

in the fall, and the extreme twigs selected. When dry, as in the shops, it is of a pale ash colour, wrinkled, consisting of a cort. and ligneous portion. When recent and bruised, it has a nauseous smell, but dry is inodorous. Taste is first bitter then sweet. Boiling water extracts its virtues which reside in an alkaline principle called Solania, existing in the form of a malate. — This is slightly narcotic, and increases the secretions of the kidneys and skin. In large doses, produces nausea, vomiting &c. — Chiefly used in cutaneous leprous diseases, and is generally given in the form of Decoc. made by boiling ℥ss in 1½ pts. W. down to a pt. Dose ℥iss to ℥iij. — The ext. is prepared as usual by evaporation. Dose 5 to 1 grs. — Dose pow. 30 grs to ℥i.

Eighteenth Lecture Dec. 21. 1833. —

In this lecture we shall proceed to consider those barks which act upon the local functions, the bowels &c. and first the Juglans, — Butternut, or White Walnut. — The inner bark of the Jug. cinerea, a tree which is a native of the U. S. abundant in the upper part of Jersey

[illegible]

about Schooley's Mountain. It grows to a considerable height, with numerous branches, on which the leaves are pinnate, composed of 7 or 8 pairs of opposite, oblong, serrate, sessile leaflets. The male and female flowers are distinct upon the same tree, hence it belongs to the Monoecia. - The male flowers are in aments, which consists of a receptacle, at the sides of which are scales, each scale having on its surface male flowers. They are supported on footstalks rising from the new stem, near its extremity. - The female flowers are at the very extremity of the new stem, and have 2 pistils without a stamen. This tree belongs to the order Polyandria. - The fruit is a drupe, i.e. a nut surrounded by a substance which is either fleshy or hard, as for inst. the common walnut. - This fruit or drupe is ovate, and has a projecting point at one end, which is rather blunt. - Bark is of a light ash colour. - The fruit is brought into market in the green state for pickles. The tree abounds in a saccharine juice, - its wood is very durable. - In the arts, the bark is used for dyeing, but is inferior to the common

Ext. Jug. is soft, tenacious, of a dark colour, - with an astringent, bitter, somewhat sweetish taste. It is an active Cathartic for evacuating the bowels without producing irritation, being analogous to Rhubarb; - it is tonic & astringent as well as Cathartic. -

It is an excellent Cathartic in Jaundice (Chapman)

walnut. - When applied to the skin, it acts as a rubefacient. The inner bark of the root should be collected in May or June. When first taken up and uncovered, it is white, but becomes or black by age and exposure. It is of a fibrous texture, has a feeble odour, - a peculiar bitter, somewhat acrid taste. It imparts its virtues to Water boiling. -

It is a mild Cathartic, acting similarly to rhubarb, & may be used for similar purposes, - as in dysentery, Costiveness, and other bowel affections. The usual form of administering it is the extract, which is prepared by boiling a decoction of the inner bark of the root to dryness. When prepared properly, but often the bark of the stem & even the twigs themselves are used, so that we find it frequently inferior. - The heat is also often improperly applied, making another source of uncertainty as to its excellence, hence it is seldom used. - Dose as a laxative is from 5 to 10 grs. - As a Purgative from 20 to 30 grs. -

Cabbage Tree Bark. The bark of the Geoffroya Inermis which is synonymous with Andira Inermis. - It grows in the W. Indies in Jamaica, and in S. America. Not to -

In large doses, it is apt to produce cerebral irritation &
Cold Water is injurious, - but warm water & warm Lem
ade act favorably. - It should be administered
in small doses, gradually increased.
Decoction is made from infusing ℥j in ℔ij boiling W.
till it attains the colour of Mad. Wine. - Dose a
wineglassful. - —

ing a native of our country, and but little used here, a particular description is unnecessary. - In the shops, it is found in pieces of considerable length, ash colour externally, yellowish-brown internally, thick, fibrous, with a disagreeable odour, and a sweetish, mucilaginous taste. - It is cathartic, and in large doses emetic, producing unpleasant effects upon the brain. - In the W. Indies, it is used as a vermifuge in the form of decoction made from ℥i in 1½ pts of water boiled down to a pint. Dose f℥i to f℥ij. - Dose of the powder from ʒi to ʒß, and of the ext. ʒprs, but it is not used in U. S. -

Mezereum. Mezereon. The bark of the root of the Daphne Mezereum. - It is also obtained from other species of Daphne growing in Europe. The Daph. Mez. is a shrub several feet high, having its stem covered with a reddish bark. - Flowers are on the end of the branches, of a pink colour, appearing very early in the Spring, and are followed by leaves which are sessile, lanceolate, and also attached to the ends of the branches. The flowers have no calyx but pink, tubular, 4-cleft corollas; and are arranged in clusters of 2 or 3 in the

form of a spike. Belongs to the Class and Order, Octandria Monogynia. - Fruit is a small, round yellow drupe.'

The other species affording the bark, not being native of our country, we shall not stop to notice them. - This is a nat. of G. Britain and the North of Europe, and sometimes is found in our own gardens. It comes into our market, folded up in small masses, or rolled into balls. - it is in strips which appear as if they were stripped from the bottom to the top of the stem, - are very fibrous and tough, with a reddish brown cuticle, - beneath which is a green Cellular Integ. - and beneath this is the Liber or Inner bark which is the tough or fibrous part. The inner surface is shining. - When fresh it has a nauseous odour, but when dry, is inodorous. - Its taste is at first sweetish, but afterwards acrid and corrosive. Boiling Water extracts its virtues, which reside in a principle called Daphnin, acrid resin, - this is crystallizable, soluble in Alc. and Ether, - is inodorous, with an acrid permanent taste. - The recent bark applied to the skin, inflames and even blisters. - The dried, may probably exercise similar properties if moistened with

Acquires the general circulation & also has a tendency to the skin. - Useful in Chronic Rheumatism &c.

[illegible]

[illegible]

× Indigenous

vinegar. – Taken internally, it is a stimulant, diaphoretic, and diuretic. In large doses is nauseating, and in overdoses an acrid poison. It had once a high reputation in the cure of secondary stages of the venereal disease, – scrofula. It is sometimes chewed for sore throat. It is seldom used. Dose in substance 10 grs. – Decoction is made from boiling ℥ij in 3pts water down to 2pts, dose teacupful. – The extract has been used for keeping issues open, but is not at present.

Xanthoxylum. Prickly Ash. The bark of the Xanthoxylum fraxineum which is a native of the U.S. – growing from 5 to 10 ft. high, with a smooth trunk, but having its extreme branches covered with strong, sharp prickles. Leaves are pinnate, with 4 or 5 pairs of leaflets. The flowers are small and greenish, spread out in umbels, forming an even surface. Belongs to Class and Order Diœcia, Pentandria. – It is found in woods, and in moist, shady places. The bark of the shoots, is more or less quilled, usually deprived of its epidermis, whitish internally, ash colour externally, is easily broken presenting a starchy fracture. It is very

light, almost inodorous, - taste first sweetish and slightly aromatic, afterwards bitter and acrid. It imparts its acrid principle to Rectified Alcohol. - We must not confound this bark with that of the Aralia Spinosa, or Angelica Tree, which is sometimes termed prickly ash, tho' entirely different.

This is a stimulant, when swallowed, producing a sense of heat in the stomach, with a tendency to sweating. It is used in chronic rheumatism & gout. Dose 10 grs to ℥ss. - three or 4 times a day. A decoction is made by boiling ℥i in 3 pts water down to 2 pts. Dose 1 pt. in 24 hours. -

The next bark we shall notice may be classed as a demulcent. - it is Elm Bark. The inner bark of the Ulmus Fulva or Rubra, which is indigenous. The bark of the slippery elm or red elm is brown, - its leaves have a peculiar character, - serrate, ovate oblong, exhibiting a peculiar arrangement of lateral veins. The fruit is a flat, membranous, one-seeded capsule. The flowers appear before the leaves, are sessile, at the extremity of the young shoots. Belongs to Pentandria, Digynia.

It grows north of the Carolinas, and is found most abundantly west of the Alleghany Mountains. –
The common American elm has properties somewhat similar, but are not so efficacious. – In the slippery elm the flowers are surrounded by downy scales, and appear in April. – The inner bark of the shoots is very fibrous and tough, reddish internally and smooth, – ext. is tougher and lighter. – It has a peculiar, fleshy odour, and a mucilaginous taste. It is excellent demulcent, readily forming a mucilage with Water.
It is very nutritious, – capable of supporting life. It is chiefly given in infusion in catarrh, diarrhea &c. – The inf. made by pouring 1pt of boiling Water upon ℥i of bark. – Sometimes the powder is used as a poultice. –

[illegible]

[illegible] [illegible] [illegible] 21 lb. [illegible] of [illegible] [illegible]

[illegible] the Trunk & Branches [illegible] they are called the Pale, Yellow, or Red Bark. –

The [illegible] of [illegible] are yet unknown, – [illegible] the [illegible] [illegible] referred to different [illegible] in the South American Provinces –

[illegible] [illegible] from Loxa to [illegible] [illegible] to the different parts of the [illegible] [illegible] of Loxa Bark. – After the [illegible] [illegible] [illegible], [illegible] – [illegible] [illegible] – & Peruvian Bark – all which [illegible] [illegible] [illegible], so that the Bark [illegible] [illegible] of an inferior quality. –

[illegible] against the [illegible] [illegible] [illegible] [illegible] Bark [illegible] are [illegible] [illegible] sufficient to [illegible] [illegible] proper [illegible] [illegible] [illegible]

The [illegible] of the Bark is [illegible] [illegible] [illegible] – [illegible] the Bark, [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] Pale, Yellow, & Red –

[illegible]

[illegible]

[illegible]

Twentieth Lecture Jan 4th 1834

Having treated in our last lecture of the pale & yellow bark, it yet remains for us to consider the Cinchona Rubra, - by the Spaniards called Cascarilla roxa. The precise source whence this is obtained is unknown, probably it is from the trunk and large branches of the same tree which yields the superior Calisaya Bark, because this is always found in large pieces while the C. is in small pieces, as if taken from the extremities of the branches. It has been asserted that this was derived from the Cin. Oblongifolia which grows in N. Granada and Santa Fe de Bogota, but this is not the fact, because if so, we should receive our Red Bark from Carthagena, and it is well known that no good Red Bark comes from that source. It comes to us in pieces partially quilled or flat, from ½ an inch to 2 in. in diameter, having usually its epidermis, reddish or mixed with grey, - rough, thick, with transverse and longitudinal ~~fissures~~ wrinkles, and sometimes covered with warts. - next to the epidermis,

best Loxa pale

We may remark, that the only true method of distinguishing the quality of Bark, must be the Taste.- If it be decidedly bitter, it is active;- & then, that wh. has the least nauseating taste combined with its bitterness, is the best.- —

A characteristic of the Yellow Carthagena Bark is its light, loose spongy texture;- it has also a less bitter, but exceedingly more nauseous taste than the Pale or Red variety of Cinchona.-

is a substance more resinous in its nature, which is bitter, containing the medical properties of the bark in a less degree than the internal, which is rough, fibrous, of a red, or orange yellow colour. - The powder is of a reddish colour, fading by exposure to light. - Its taste is bitter and astringent. - It will be recollected that the pale bark had a bitter taste, and the yellow an astringent, - while this, - the red, - combines both those properties, and is the most efficacious variety. -

Besides these officinal varieties, there are other Carthagena barks, the most common of which is the yellow Car. Bark, - the product, probably of the Cin. Cordifolia (Mutis), which comes in pieces 1 to 3 lines thick, covered with a white epidermis. - It is yellow, of a loose texture, bitter and nauseous taste. - Other varieties also are the brown and the red Car. bark, but of these, little is known. There is also another called the St. Martha or Maracaibo Bark, which comes in small, irregular fragments, slightly curved, generally without epidermis and appears as if clipped off from the trunk. -

The chemical analysis of Cinchona has been gradua
Deschamps, - an apothecary of Lyons, first found in it
a salt of Lime, - which was examined by Vauquelin
& the acid separated & named Kinic Acid. -
Dr Duncan of Ed. took the first steps towards the dis
covery of the active principle, & obtained a substan
which he named Cinchonine; Dr Gomez of Lisbon
separated this from Cinchona, - but it remained for
Pelletier & Caventou to ascertain the precise natu
this principle; - that it possessed alkaline properties
besides this, they also found another principle, whic
they named Quinia; - & both appeared to exist in
combination as Kinates. -
Recently it has been rendered probable that both Q
nia & Cinchonia exist in it, combined with the red col
matter, - forming an insoluble compound.

It is sometimes in short quills, and if any epidermis remains, it is of a whitish colour. - All these Car. Barks contain Quinina and Cinchonia, but in a less degree than the pale or yellow. -

Besides these already mentioned, there are other barks, which are derived from trees formerly considered as belonging to this genus, but which are now more properly referred to other genera. These however are not worthy our present notice. -

We shall next consider the chemical composition of Cinchona. From the analysis of Pelletier and Caventou it has been found that it contains Cinchona, Quinina, fatty matter, a red colouring matter, a yellow col. matter, tannin, gum, starch, lignin, kinate of lime, kinate of cinchona and of quinia. - Cinchona is more abundant in the pale, and Quinia in the yellow variety, and both are found in the red. -

The cinchonic red or colouring matter is tasteless & inodorous, insoluble in Water and Ether, sol. in Alcohol & Boiling Water, - and is said to have no effect on the system. - It is precipitated by Tartar

The constituents of Cinchonia are Carbon Hydrogen, Oxygen & Nitrogen:— its equiv.- or combining number 307.—

Emetic, & Subacetate of Lead and when acted on by an Alkali, is converted into a substance which forms an insoluble compound with gelatin. —

The yellow colouring matter differs in being soluble in Alc. Water and Ether, and not precipitated by Tart. Emetic, or Gelatin, — but like the rod by Subacetate of Lead.

Tannin is astringent, sol. in Water and Alc. dil. — It is precipitated by gelatin and the salts of iron —

Cinchonia when pure is a white, crystalline substance sol. in 250 parts boiling water, not in Cold W. — soluble in boiling Alc. from which however a portion is deposited in the crystalline state on cooling, — is sol. slightly sol. in Ether and in the fixed and volatile oils. It has a bitter taste not at first perceptible, — neutralizes acids, forming with them ~~soluble~~ salts of which the sulphate, nitrate, muriate, phosphate and acetate are soluble in Water, while the neutral tartrate, oxalate and gallate are insol. in cold W. but sol. in hot water or Alcohol. — The simplest process for obtaining Cinchonia is to macerate the powdered Sal. bark in diluted

*Saturation of the alk. with the acid is known by the salt becoming soluble, when any more acid is added. —

Sulphuric Acid, then filter and we have a Sulphate of Cin. in Solution, - to this add Lime in excess and we precipitate Cinchonia, Sulphate of Lime & the remaining Lime. - Pour off the liquid, and treat the precip. with boiling Alc. which will dissolve the Cin. and perhaps some impurities. - This must be filtered while hot, and on cooling the Cinchonia will be deposited. - This may not be quite white, - to purify it, repeat the process, acting upon it with Charcoal to decolorise it.

Sulp. Cinchonia has been used in medicine. It is obtained by dissolving Cin. in hot water, and gradually dropping in diluted Sul. Acid*. - boil it with Charcoal filter, evaporate and crystallise. - It is white, bitter, crystallizes in prisms, - is soluble in 54 parts of Cold, and less boiling Water. - By the addition of a little more Sul. Acid, we form a bisulphate, which is very soluble in less than half its weight of water at 58°. -

Quinia is a whitish flocculent powder, not chrystalline & fusible appearing like wax, and upon cooling forms a brittle mass, - is more bitter than Cinchonia, is almost in-

Sulphate of Quinia is the most important remed
of administering the Bark [illegible] - and is a power-
ful remedy in Intermittents, it will [illegible]
It is not only serviceable in Intermittent Fevers,
but in any disease of periodic character. It
[illegible] showing that the remedy is [illegible]
of the nervous system —

soluble in water, but soluble in Alcohol and Ether, & with acids forms salts. — Both Cin. and Quinia contain oxygen, hydrogen, carbon and nitrogen. —

Sulphate of Quinia is used very extensively in medicine and is officinal in U.S. and Dub. Phar. — It is obtained from the yellow or Calisaya bark, by adding to a coarse powder water acidulated with Sulp. Acid. First form a paste then add the rem. of the Water, heat it to the boiling point, let it stand till it settles, then strain it. — To the remainder, add again acidulated Water, until the powder is exhausted, pouring off each time. — Mix these decoctions, add Lime in excess, which will precipitate Sulp. Lime, Quinia & the superabundant Lime. — Collect these, dry them and dissolve in Alc. — making an Alcoholic solution, let it stand and settle, pour off the clear portion, filter the remainder, and introduce it into a water-bath and distil off about 2/3 of Alc. — Add gradually diluted Sulp. Acid, being careful not to add an excess and the Sulp. Quinia will be precipitated. —

From the mother-waters which are poured off from this, impure Sulp. Quinia, by some improperly called Ext. of Quinia, is obtained by evaporation.- The bark yields about 3 per cent. of Quinia. It is in the form of fine, silky, flexible needles, with an intensely bitter, peculiar taste, loses its crystalline form by heat, - melts at a high temperature, is sol. in 720 parts of Cold and 30 parts of boiling Water, very soluble in Alc. and diluted Acid, and slightly in Ether. The proportion for dissolving it is 1½ ms. of Sulp. Acid to 1 gr. Quinia. - It is precipitated by a Solution of Galls. - **Tests.** -

In consequence of its value, it is frequently adulterated with Sulp. Lime & other mineral substances.- To detect these, put some on a red hot iron, and if pure it will be completely dissipated. - Sometimes it is mixed with White Sugar or Manna. These are discovered by the taste or by rendering it more soluble in a given quantity of Water, of which ℥ij should dissolve but one grain. - Starch, Stearin &c. may be detected by their not being sol. in dil. Acids.

Twenty First Lecture Jany 6 - 1834.

The impure Sulphate of Quinia is called Extract of Quinia, - it has a dark appearance, soft when warm and is effectual in about double the dose of pure Sulphate; - is sometimes used in intermittents. - It is soluble in water especially with the addition of a little Sulph. Acid, - also in Alc. - About 12 grs of it, are equal to ℥i of the best bark, and from 12 to 18 grs are usually given as a dose between the paroxysms. - As a mere tonic, ½ a gr to 1 gr may be taken 3 or 4 times a day. - When made into pills, they should not be kept long, - or if intended for this, as in a long voyage, they may be made up with Gentian. - It is sometimes used in Solution - 1½ drop of acid to 1 gr. - It is also useful in injection, or as a topical application when the skin is denuded of its covering. -

Kinic Acid may be procured from Bark, by making an infusion of Cal. Bark, - evap. to dryness, - treat with Alc., - dissolve what remains in Water, and evaporate slowly, - again dissolve in Water, - evaporate

[illegible]

[illegible]

[illegible]

stomy, after adding a little oxalic acid. —

Peruvian Bark possesses powerful tonic properties, but must not be given so as to irritate the stomach. It is most efficacious in the cure of intermittents. — Its most obvious effect, is, its peculiar action upon the nervous system, frequently causing the patient while immediately under its influence to be hard of hearing, — have a buzzing sensation in his ears, — sometimes deafness showing its action upon the brain and nervous system. — Of the different varieties, the Red Bark is the best, — Calisaya next, — yellow next — pale next, and Carthagena most inferior. — An infusion is made according to the Phar. from ℥i of the bark to a pt. of boiling Water, but this does not completely exhaust the bark, and is turbid. — A better method is to add ℥i of pound bark to 1 pt. cold W. and ℥i Ac. Sulph. Aromat. — let them stand for 24 hrs. — shaking them frequently. — The infusion should not be made with Lime-Water, as it is less efficacious, nor should any alkalies be added. — The incom-

precipitates with the infusion are most of the metallic salts which are precipitated by tannin, gelatine, - tartarized antimony, and vegt. alk. &c.

Decoction is made by boiling ℥j in a pt of water 10 min. in a covered vessel & strain while hot. - add a little acid to exhaust the bark, and a little Gum or Jell bruised, (about ℥ss) just after it is boiled, while yet hot. - The decoc. of the Red Bark is rather a bright Salmon Colour, and this we may consider as a test for red Bark. -

Tinct. Cin. and Tinct. Cin. Comp. are not much used. The Ext. Cin is prepared by first making a Tincture, then pouring it off, and make a decoction of the remainder, - evaporate each separately till they acquire the consistence of honey, then mix them, and evaporate them to dryness. - This however is very little used at present. — " — —